

# THE DENTAL DIGEST

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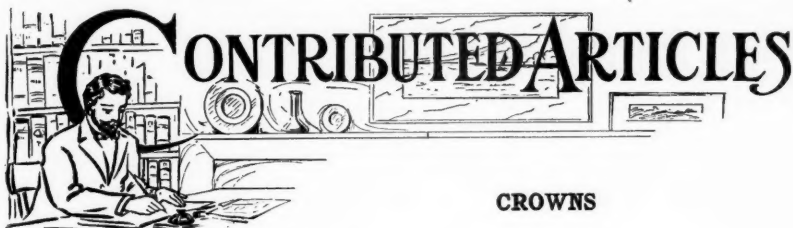
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## CROWNS

BY J. G. LANE, D.D.S., PHILADELPHIA, PA.

During the past few months we have been making a very careful detailed investigation of conditions as they exist in crowned teeth. The result of this research—which is still being pursued—is the incentive that prompts the writing of this article.—AUTHOR.

“UNEASY rests the head that wears a crown.” This tersely worded statement is no more forcefully applicable to rulers and potentates than it is apropos in the after-consideration of crowned teeth. For the former class “custom” decrees a definite form and style of crown; thus its selection is an absolutely arbitrary proceeding. For the latter class—well, their name is Legion, and we are the arbiters. From the reign of the calf-tooth crown of an hundred years ago up to the present time, styles and make-ups have come, and most of them have gone. None thus far devised by the art of man can be considered ideal, or all that could be desired.

Unfortunately, the operation of crowning is not as uniformly suc-

crown and such reasoning. My first knowledge of porcelain crowns was that of the Logan, mounted as it was in the prescribed form, with the accompanying mass of oxy-phosphate of zinc coming to the surface in large areas at many places on the line of union, and the soft platinum pin that bent after the major portion of the cement had dissolved away—allowing these crowns to bend forward and split the root. Yet, withal, are not these same old-time operations and fixtures, with all their well-known weaknesses, practised to-day? I was also taught that the Richmond crown was the ideal single crown, because it “never left the root.” There was, indeed, much truth in this, for the Richmond crown rarely ever does leave the root. But it does, conversely, leave the gum; and sometimes, by reason of long and continued irritation, set up by the presence of the band—even though it is fairly well fitted—both crown and root will collectively part company with their erstwhile owner. In this crown the same make-up that caused this extent and kind of trouble twenty years ago is being used to-day, and is doing the same kind of damage to-day that it did then.

The Shell crown (or, as it is sometimes named, the “full gold” crown) that seems to be an absolutely last resort in cases wherein molars have lost the greater portion or all of their natural crowns, and in these cases seems to restore to usefulness a root upon which no other operation seemed possible is, alas! too frequently adapted to the root in such manner that it is not really fitted at all; instead of the edge of the band finishing smoothly to the root, in accordance with theory and intention, it stands out at various places—projecting into the gum tissue. Particularly is this result possible and probable, with the use of seamless or ready-made crowns, the make-up and adaptation of which has begun at exactly the wrong end and closes up the main window through which we can best view the accuracy of the operation as we proceed with the fitting. We see these conditions more plainly after some months, or years, of service.

In the use of the Downie, or made porcelain crown, we frequently see what the patient designates as an amalgam filling at a point labially, where irritation caused by the band has caused the gum to recede more or less. There we see a platinum band showing. Any attempt to cover the band by fusing porcelain upon it results in a crown that is bulky at the cervical portion, if this covering is thick enough not to flake off. With this shape present a normal inter-dental space is *never* present. A normal gum septum is not there. Hygienic conditions are an impossibility.

We have in the past few months come into possession of about

cessful and permanent as most of our other operations. (Fads not included.) Furthermore, when repeated attempts and experiments at crowning a given case can no longer be continued on account of the root having become more and more defective with each successive attempt, we have, in many—and nearly so in most—cases, gotten beyond the line of “Last Resort,” and the much hollowed out or split root has to be extracted. In this event, next comes *more* crowns—for bridge anchorages, this time on a tooth, or on teeth, adjoining the space thus occasioned; and these, oftentimes, are wont to take such unreliable forms as are designated by the term “Half-cap,” “Open-faced Crown,” “Carmichael,” “Hinman,” etc., etc., and very soon the lack of permanent conditions is so evident that we realize the same old tragedy being enacted over again, and we proceed as stage hands to shift the scenery. With the same methods and perfection of workmanship—all other things being equal—the same result may be expected again. After a time the patient becomes disgusted with such results, and a partial plate is the ultimate result. Now comes the guilty feeling—possibly for one’s self; but most likely it is shifted up against dentistry in general, and with a sigh we soliloquize: “Well, we did the best that we or any person else could have done, or would have done.”

This highly-colored picture is not a mere fancied one; but, as we all know, it actually happens—much to the discredit of ourselves, the disgust of our patients, and injury to the cause of dentistry in general. Why should this *ever* happen?

The man who conceived the idea of crowning the roots of natural teeth is entitled to as much glory as he who first made gold fillings, or he who devised the porcelain or gold inlay. Crowning is an operation that is as legitimate as any we have mentioned; but on account of the possibility of executing the work in mere slipshod fashion, it has by *all means* much more frequently gotten into dispute. A false idea of conservatism, or an unwise desire to mount a crown by whatever method requires the least labor, or a disregard of our better judgment to satisfy some whim of the patient, is responsible for scores of untold failures.

When I was a student, twenty years ago, I was taught that the half-cap (or open-faced crown) was the fixture par excellence as a bridge anchorage, where such anchorage had to be gotten by making use of a sound vital incisor or cuspid. It was “not conservative” to resort to a form of anchorage that necessitated any more cutting than this, or “The patient did not want the tooth cut.” It took only a few years to disprove any and every claim of reliability in such

port or anchorage. No. 23 shows a removable bridge of exquisite workmanship, but sadly mistaken perfection of adaptation to the roots. No. 25 shows large areas of zinc phosphate still *in situ* against the side of the root, and under the edge of the band. No. 16 shows a root fractured by the expansion of an amalgam re-enforcement, after the same had been in position four and one-half years.

fifty specimens of crowned teeth that had become exfoliated, and in each case the crown and root are still assembled. A close examination of Fig. 1 will reveal ample cause for irritation, inflammation and absorption. It will also reveal the cause of failure of the unbanded crown that is set over a large mass of exposed cement.

It must not be assumed that we disapprove of the use of all the crowns we have mentioned. Most of them have their places. Nor do we wish to pose as a general knocker, or to advocate the use of any one single style of crown to the exclusion of all others. We do not unnecessarily condemn *any* form—we only designate some as unreliable, which feature, in the style so designated, is without challenge.

In a recent issue of one of our dental journals, we may read a six-page dissertation on crowns and crowning; and while we read we come to the conclusion that the writer of the article considers the banded crown to be superior to all others. The last paragraph of this same article starts in thus: "After what I have said about banded crowns, I may surprise the reader by stating that I have not made five in ten years, and all of these on the lower front teeth." We cannot quite see the point in upholding one style of crown, criticising all others, and then, in a closing paragraph, turn flat down the one so upheld, giving absolutely no reason for so doing.

Now we do not wish to formulate a lot of criticisms without offering some suggestions to counteract the same.

The many undesirable results of crowning operations are not so much the fault of the style of crown as they are due to the method, and imperfections of adaptation and mounting. For example, the much-used full gold crown—that last resort for very badly broken down molars—is rarely (if ever) unaccompanied by irritation and inflammation of the free gum margin. Nor does it have the normal gum septa that should be present on either side. Instead, we have "meat-holes" where the septa ought to be. The very presence of an outside band is a source of constant irritation, regardless of the perfection of its adaptation. The best results obtainable are gotten only after the root has been properly prepared and fitted. As ordinarily stated, the preparation of a root for a full gold crown consists in removing all remaining enamel. In some instances this would necessitate more cutting than was needed, while in others it would leave the root incomplete in its preparation. The preparation must consist in



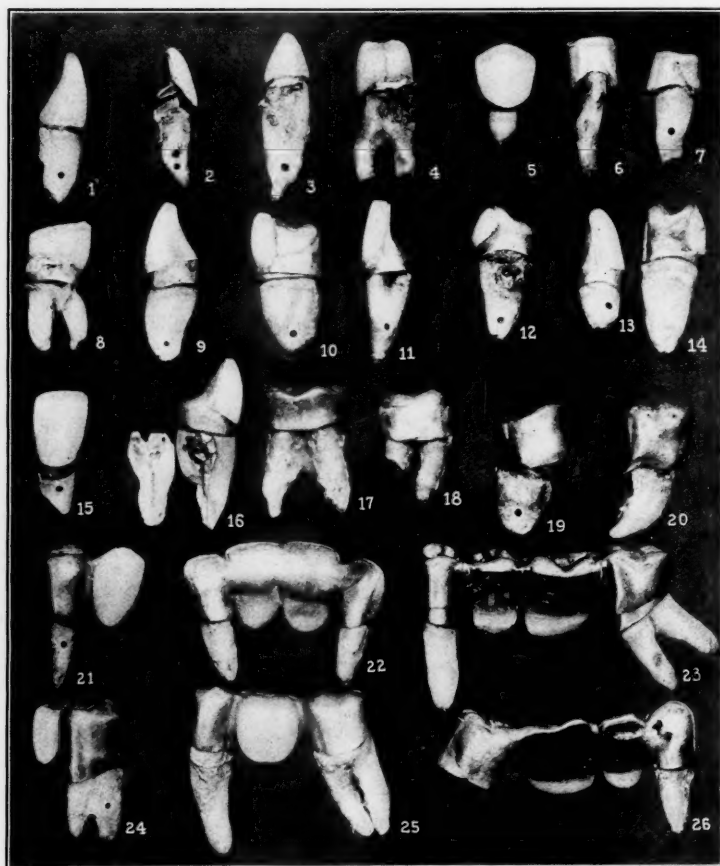


Fig. 1.—Nos. 1 and 3, Logan crowns mounted by grinding the crown to fit (?) the root, and set with enough oxyphosphate to complete the union. Much of the cement is dissolved away. Nos. 8 and 9, Logan crowns with band; No. 8 shows a very bungling attempt at banding a split root. No. 2 shows the usual condition that obtains with the soldered bandless crown after a few years' service. In this particular specimen the end of the dowel may be seen protruding through the side of the root. No. 4 is a Bonwill crown mounted with amalgam; expansion of the latter has fractured the crown longitudinally. Crown overhangs the root buccally, and does not cover it palatally. General wasting away at the union. In No. 5 the attached root is stained all shades of green from light—near the crown—to dark—near the apex. Stain has penetrated every portion of the root. This stain is the result of chemical action on a nickel alloy dowel. Stain from the same cause is seen in No. 12. Nos. 6 and 7 are aluminum caps; the output of an advertising office, and advertised as "Silver Plume Crowns, 75 cents." Further comment unnecessary. Nos. 10 to 16, inclusive, No. 22, and one end of No. 26 are Richmond crowns; two are fairly well fitted; others poorly fitted (some exceedingly so). In all these the possibility of pericemental irritation is beyond estimate. All other numbers show full gold ("shell") crowns; not one properly fitted. It may be seen that in every case wherein the edge of the crown extends toward a concave surface of the tooth leading to a bifurcation of the roots the edge of the band makes a bold straight line across, instead of fitting into such depression. This same condition may be seen in other banded crowns shown. See Nos. 8, 9, 11, 12, 17, 18, 20, 22, 23, 25, and 26. Nos. 21 and 24 show bands fitted much too far under the gum and into the pericemental membrane. No. 22 shows an error of judgment in mounting so much restoration on so little sup-

part of the root are parallel, to a point slightly under the gum margin, but not nearly as far under as the band is placed. A band is then fitted, and the result is that immediately under the gum margin it does not fit at all. Instead of finishing smoothly with a thinned margin to a parallel root, it is standing out free for a distance representing many times its thickness, and is cutting into the gum, as previously mentioned.

A band that is fitted closely to a root and thinned to an edge so as to reduce the irregularity of surface to as small a minimum as possible, will be tolerated by the adjacent tissues to a remarkable degree. However, a perfection of finish, such as we have described, is in many cases a physical impossibility, and in most cases a very decided improbability.

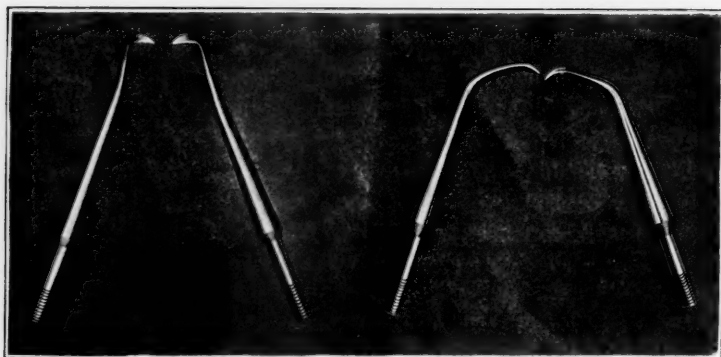
We believe that sometimes shell crowns are placed upon teeth that really did not need crowning at all. This unnecessary crowning, we must believe, is the result of faulty judgment. We surely cannot believe it to be done for pecuniary purposes.

Knowing the weaknesses and the possibility of trouble from the causes that we have enumerated, and also having at our command a means whereby very badly broken down molars may, in a great many cases, be more successfully repaired, it becomes our duty to avoid the use of the irritating band wherever possible and repair by some other means instead. Crowning should be considered an absolutely last resort.

The other means referred to is the present day gold inlay. The use of this means gives us nature's continuity of surface, avoids injury to gum margin or gum septa from the use of stones or scalers, and offers a far greater possibility of securing normal inter-proximal spaces. Even though almost the entire crown portion of a molar is absent, we believe an inlay operation, wherever possible, is better than a shell crown. However, the inlay has its limitations, and must be used with rare good judgment. We will not dwell upon these limitations in this paper.

The Richmond crown has a number of very serious objections:—if it is an incisor or cuspid, and made so that the porcelain is protected by being tipped with gold, it *never* looks right; if the porcelain is not protected we sooner or later have the disagreeable task of putting on a new facing. This replacement may be somewhat simplified by using "interchangeable" facings. But even with these, the objection is a serious one. Furthermore, the facing, being thin, does not possess a sufficient degree of translucency to give it a life-like appearance. The band acts as an irritant to the gum margin, regardless of its perfection of adaptation, and sooner or later becomes exposed. If the crown is

"cutting the root until its sides are at least parallel—slightly coning the sides is preferable—to a point as far under the free gum margin as the band must be placed; and the masticating surface reduced sufficiently to allow for the thickness of the cusp part of the crown." The band must be placed as far under the free gum margin as it will go without impinging upon the pericemental membrane. Too far means a greater amount of inflammation than would otherwise be occasioned, and too little will allow food particles to lodge under the edge of the crown and cause trouble. The latitude between too little and too much in this case is infinitesimal. It is an easy matter to state what the completed preparation consists in, but to execute the same is, indeed, an exceedingly difficult matter. The most generally accepted method employed in the preparation is that of grinding.



Those on the left are stock patterns Nos. 40 and 41. They will give best results if mounted in No. 8A handles. These would be used in preparations of the teeth of the upper maxilla and lower anterior teeth. Those on the right are specials, made by Lukens & Whittington of Philadelphia, Pa. These will give best results if mounted in No. 8 (S. S. W.) handles, and are used in preparations of molars and bicuspids of the lower jaw.

There has never yet come to our notice any shape, or shapes in grinding wheels that make possible the proper preparation of a root entirely by that method. An attempt to do very much grinding under the free gum margin has the effect of mutilating the little delicate edge of the gum tissue to such an extent that it is never normal again. This applies to the septa as well. A wiser plan is to complete the exposed part of the preparation by grinding, reducing it to proper size and shape, and afterward remove the rim of tooth structure that has yet to be cut away from under the edge of the gum margin by means of suitably shaped scalers (Fig. 11). In far too many cases the preparation is carried to a point where the sides of the exposed

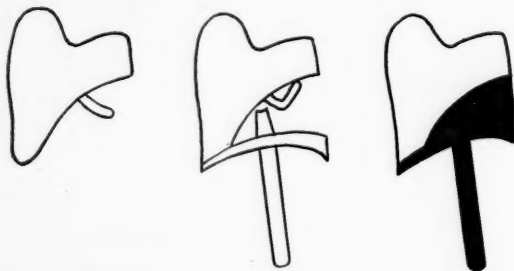
This crown, while possessing many good points, retains one objectionable feature—the irritating band.

We have referred briefly to the Logan crown. There is no denying the fact that a Logan crown properly matched to its neighbors presents a most pleasing and life-like appearance. But it is most exasperating to see that after a few years the greater portion of the unnecessarily large cement line has dissolved away, and these same life-like crowns are supported by no other foundation than the platinum post. Ah! but you say, "I always fit the crown to the root so perfectly that the cement does not wash away." Brother, we would like to agree with you and believe this, but we simply cannot. As we stated in regard to the molar, it is in many cases an absolute impossibility, and in all cases an improbability. After the best fitting we can do, there is altogether likely to be present a width of exposed cement line that is not at all in keeping with our present ideas and knowledge of the durability of cements, and in an all too brief period we have the condition referred to earlier in this paper. If we feel that we *must* use a Logan crown, let us provide for its known weaknesses as far as possible, and thus, to a certain extent, avoid them. A union that is by all means superior to an all-cement union may be gotten by interposing a disk of hard white gutta-percha. Having the crown fitted as well as may be by grinding, place a disk of hard white gutta-percha against the cut end of the crown, and with crown and disk heated as hot as can be borne by the fingers, assemble on the root and press hard enough to cause the gutta-percha to take the form necessary to fit the space between the root and crown. Remove and trim away the surplus gutta-percha that has squeezed out. It may be necessary to repeat this in order to get the disk thin enough. The crown would then be set with oxy-phosphate of zinc in the ordinary manner. The disk will have had the effect of reducing the surface cement area to a mere line. The evidence of weakness in the soft platinum post is a sequel of a poor union between the crown and the root, and becomes a factor only after the line of union, as such, has all wasted away except the platinum post. In extreme cases it may be well to strengthen the post by flowing solder over it, and against a very small backing that has been fitted to the recessed space on the under side of the crown. However, subjecting a Logan crown to a soldering temperature is a questionable proceeding on account of the proportionately large body of platinum that is fused into it. It is likely to check by reason of the different coefficient of expansion of the two materials. Make the rest of the union right, and the post will not likely go wrong.

At the present day we have at our command porcelain crowns that

a bicuspid, it is exceedingly difficult to make, and the finished product shows more gold than porcelain. Particularly is this the case in lower bicuspid. The use of a Richmond crown is rarely ever indicated except as a bridge anchorage. And even this concession is made only because of its integrity of fixation on the root that carries it, and because we must have something to which we can solder. (We must pass by the "Half-Cup," "Carmichael," "Hinman," and similar bridge anchorage crowns, as being too unreliable to be practical.)

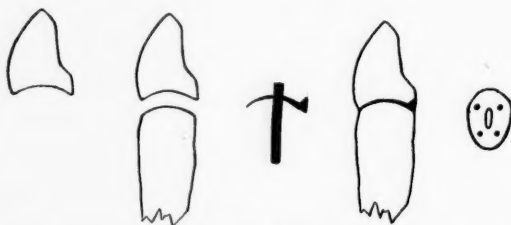
A modification of bicuspid Richmond may be had by using a long pin saddleback tooth instead of a facing and gold cusp (Fig. 3).



III. No. 3.—A modification of a Richmond crown for bicuspid and molars.

This form of crown has an æsthetic effect equal to all-porcelain crowns, and is simple in construction. Having the foundation made as for a Richmond, and mounted upon a model, grind the tip part of the neck of the saddleback tooth to the cap, making a finished adaptation at the labial margin, swage a backing against the remaining, or unground, portion of the under side of the porcelain, set up in wax, invest, and flow solder in the space between the cap and backing. As a bridge anchorage this crown serves quite as well as a Richmond, has the necessary strength and has sufficient area of solder surface for attaching dummies. There is one point in its make-up that must be guarded with great care; that is, fitting the backing. Should this spring away from the porcelain ever so little, the inner cusp will not have sufficient support, and under severe stress may break off. A backing for this crown can be properly fitted only by swaging directly against the tooth in one of the small swagers using rubber as a swaging medium. If the backing should spring away very slightly from the porcelain, it may be put back to place by scarring across it with the point of a sharp knife. This has the effect of expanding the exposed side of the backing and thus setting it back at the margins. Several scars may be necessary.

possess all the good features of the Logan, and eliminate some of its objectionable features. These crowns are the "Davis," "S. S. W." and the "Twentieth Century." All these are made with detached posts. The main advantageous feature is that the post, not being an integral part of the crown, allows the grinding to be done with far more ease and accuracy, and also allows us the opportunity of selecting a post suitable for the case in question. We do not sanction the use of the nickel alloy posts that are manufactured for these crowns. Instead, we prefer to use either platinous gold (clasp gold) or iridio-platinum. We have seen cases wherein the nickel alloy posts had corroded to such an extent that the crown had fallen off. We have also seen roots stained green entirely through to the pericemental membrane as a result of chemical action on the base metal; or if it is



III. No. 4.—Crown and root ground. Casting about crown post. Crown, crown post, casting and root assembled. End view of root, showing anchorage to increase retention.

necessary to heat these posts—as for casting—they are annealed and worthless. These crowns are intended to be mounted in the ordinary manner with a simple oxy-phosphate and dowel union. However, their make-up is such that they will lend admirably to quite a variety of methods.

In October of 1897 we devised a method of crown mounting that seems to possess most of the requisites, and very few of the undesirable features usually accompanying the operation of crowning. It consists in interposing a pure gold casting to obtain an accuracy of adaptation. It combines æsthetic effect, simplicity, strength and apparent durability. It also provides a normal continuity of surface at the neck of the tooth thus crowned (Fig. 4).

We have already described this method in the *Dental Cosmos* for January, 1908, and in *THE DENTAL DIGEST* for September, 1909. Briefly, it is this: Prepare the root as for the ordinary method of mounting this style of crown, facing it well back under the gum margin—particularly at the labial, or buccal, aspect; but nowhere far



enough to injure the pericemental membrane. Let it remain high mesio-distally, across the center. This gives a ridge shape, which adds strength to the finished fixture; this also avoids getting too high up under the gum margin in the preparation, and assists in locating the crown in setting. If the conditions and size of the cut end of the root will permit it, drill four very small pits in the location, as shown. These would be drilled with a No. 2 or No. 3 round head burr, and to a depth equal to their diameter. These will have had the effect of anchoring the gold casting against the root end in such manner as to aid very materially against the possibility of splitting. Grind the crown to the root, fitting it closely at the labial, or buccal, aspect, and approximately at all other places. The point of close adaptation referred to is for the purpose of preventing any large amount of gold being present at that point, where, after years, it might become visible. Grind out a small rounded space at the cervical edge of the palatal side of the crown, so as to allow a little more open space at this point. Oil or vaseline the cut end of the crown, and the opening for the dowel. Prepare a dowel of suitable length of round wire. This may be made of platinum gold if the size can be as large as No. 13; if a smaller dowel than this size, it must be made of iridio-platinum. Warm the dowel, and make it melt its way through a small mass of pink base plate wax. (Inlay pattern wax is not suitable for this pattern on account of its brittleness.) While the wax and dowel are still warm, assemble, with the crown on the root. Press together sufficient to cause the crown and root to come together at the point of close contact just described; also obtain proper position and alignment of the crown at this stage. Chill with water and remove. Cut away the surplus wax, and insert the sprue wire into the edge of the wax at the point where the latter is enlarged into little rounded space cut into the porcelain. Reassemble on the root to correct any defects caused by trimming and placing the sprue wire. When all is right, remove, flask the wax pattern with the dowel still in it, and cast in the ordinary manner, using pure gold. The casting and dowel will be one piece. If the various stages of this operation have all been carefully performed, the fixture thus made will accurately fit the end of the root and the end of the crown; when all is cemented in position the surface cement line will represent the same infinitesimal minimum that is present around a well fitted gold inlay. Roots that present irregular ends may be accurately fitted by this method with as much ease and certainty as a root with a newly cut end. If root canals have become unduly enlarged, the casting is made to extend along the dowel in such manner as to fill in such places.

The foundation fixture we have made up in accordance with the foregoing method, is assembled on the crown and held in position while the edge of the gold disk is smoothed and polished. The whole is then placed on the root, and given a sharp blow with a wooden mallet against a stick of cottonwood (or other elastic wood) placed against it. Examine it carefully for any projecting margins, and remove the same if present. Cement both joints at one operation.

In crowning, the "slogan" should always be "reduce the bulk of cement to the smallest possible minimum." At a meeting of the New York State Dental Society, held in May, 1906, we heard advocated the theory that larger cement areas were more durable than smaller lines. We cannot agree with this at all.

This crown is not suitable for a bridge anchorage, there being insufficient area of gold to which we can solder the bridge. To cut for more area would weaken the porcelain unduly before sufficient area was secured. For single crown anchorage we believe this form possesses advantages over any other form that has ever yet come to our notice.

In closing, we wish to emphasize the necessity of thoroughness. Crowning cannot be hurried and proper results secured. It is better not to undertake an operation of crown or bridge work unless we feel that the resultant repair is going to be durable and permanent within reason. Otherwise, we sooner or later find that we must explain to the patient WHY the work did not last. Aside from the fact that such results cannot be of service to our patients, it amounts to an abuse; and this not only to them, but also to ourselves and to the cause of dentistry in general.

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#### LETTER BY A DENTIST'S WIFE

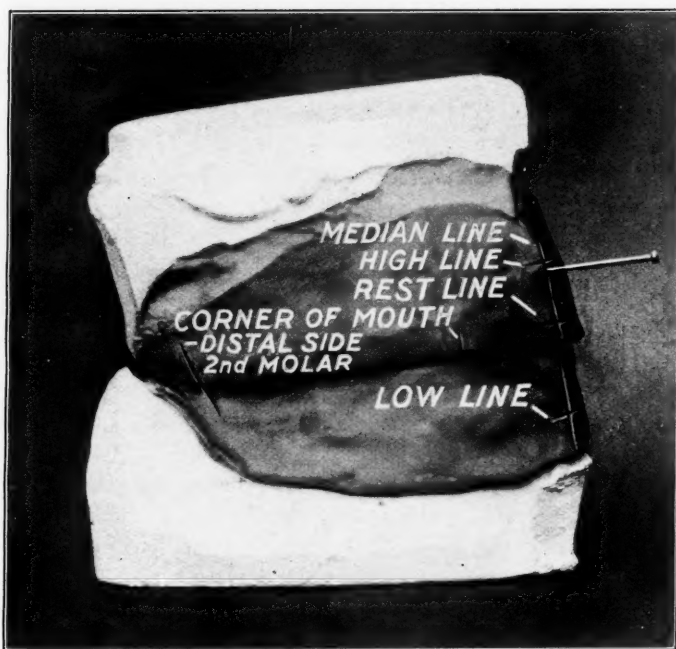
Just as this number goes to press we are in receipt of a letter from a dentist's wife, who, beginning gently when he and she became engaged, has remodelled both the office and the dentist, to the great benefit of all concerned. They are now most prosperous. This letter is expected to appear in the March issue. It is full of interest.

## THE MECHANICAL SIDE OF ANATOMICAL ARTICULATION

BY GEORGE WOOD CLAPP, D.D.S., NEW YORK

*(Third Paper \*)*

WHEN the marks which locate the position of the lips and the corners of the orifice have been made on the bites it will be well to deepen them and to run into each mark some of the black wax on which arti-



III. 25.—Wax bites showing marks which determine the sizes of teeth required.

ficial teeth are carded. This will preserve them during the subsequent stages of the work.

After the bites have been removed from the mouth, they should be examined and the approximation of the ridges in the molar region

\*Some of the material in this paper has been published before, but the copies containing it have long since been all taken, and the information is so necessary as to make it worth printing again.

noted. A point should be selected where the distal surface of the upper second molar is to come and a vertical mark made opposite that point on the buccal surface of the upper bite as shown in illustration No. 25. A similar mark is then made on the other buccal surface of the same bite.

The next step is the selection of the teeth. When one looks over the methods commonly employed in the selection of artificial teeth, it is wonderful that such roundabout and unsatisfactory methods obtain as were universal up to two years ago and are still only too common. For, rightly undertaken, the selection of artificial teeth is very easy and rapid, and as exact as anything else in dentistry.

There are but three considerations in artificial teeth—size, shape and color.\* The color is determined by the use of the shade guide, and will be considered in another article in the series.

Let us first determine what the size shall be. When that has been determined, teeth of correct shape may be selected from among the moulds of that size. What shall be the length of the centrals, the width of the six anteriors,† the width of the full set and the combined bite and shut of the teeth?‡

The marks by which we registered on the bites the positions of the lips will be our guides as to the sizes of the teeth. If we obtain the distances between these marks in some unit of measurement and then select teeth of the same measurements, selection will be easy and satisfactory.

It is becoming recognized that artificial teeth cannot be selected to meet the requirements of a case by trying them on a model. The bites alone restore the expression which the teeth must perpetuate, and if the teeth are to produce the same results as the bites they must be selected from the bites.

Furthermore, selection by means of the marks on the bite is much more economical. Artificial teeth cost the dentist not only the purchase price of the teeth, but the time cost of selection and of any changes necessary because of wrong selection. The value of the time lost in the old way of selecting and in correcting the errors it leads to is often several times as great as the purchase price of the teeth. Any dentist who will devote a little time to mastering the method of selecting by means of marks made on the bites can thereafter select

\* This overlooks the relative sizes of uppers and lowers which may be considered later.

† The relative sizes of centrals and laterals and cuspids in the anteriors can be determined later.

‡ This most important dimension will be treated in full a little later.

a suitable mould for any ordinary case in five minutes. He will get better mechanical and artistic results and will have fewer changes to make following the first selection. The additional time consumed in selecting the first one or two sets by this method will be quickly and often repaid.

The selection of artificial teeth should not be left to the tooth clerks. This is a manifest absurdity. The tooth clerk never sees the patient. He is usually furnished such meagre information as would preclude satisfactory selection by any one; and he is not expected to be a practical plate worker. Tooth selection has been left to him because dentists in general have not been sufficiently well informed to make their own selections. The dentist who knows every detail of the case is evidently the one who should master tooth selection and should order by *mould number*, leaving to the tooth clerk merely the duty of properly filling the order.

#### A STUDY IN ARTIFICIAL TEETH

Tooth selection becomes quite simple when the possibilities in artificial teeth are learned. This can be done by a little study.

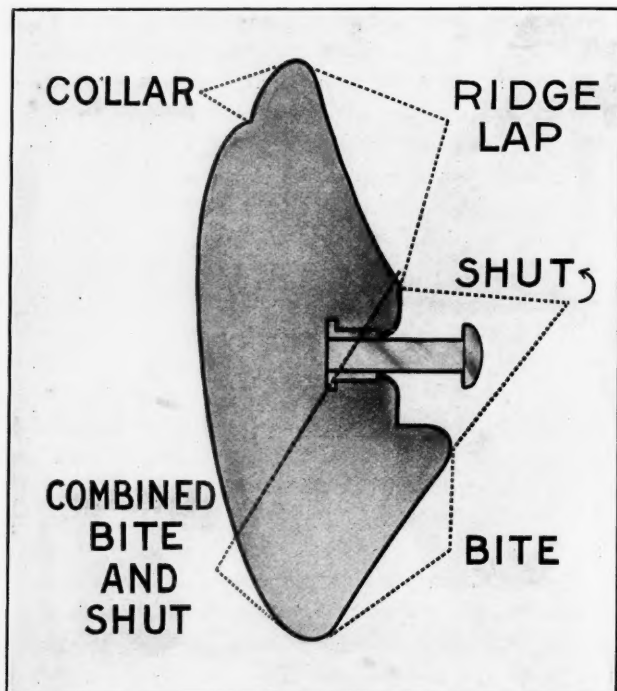
An artificial central, for instance, offers two principal surfaces, a labial and a lingual. The labial surface stands for appearance, the lingual surface for adaptation.

The labial surface presents two parts in most teeth, the broad labial surface which is exposed to view, and the collar at the neck which forms a valuable means of locking the tooth into the rubber. It is the labial surface which most dentists have in mind when they speak of the "size" of an anterior tooth. The labial surface of the upper central should be as long as from the high line to the labio-incisal angle on the upper bite, leaving the collar to project upward into the vulcanite. The combined widths of the labial surfaces of the upper six anteriors should be as wide as from one mark at the corner of the orifice, not around the curve of the bite, to the other similar mark. The width of the full upper set, when set up, should be equal to the distance between the vertical marks on the buccal surface of the upper bite.

A word of qualification as to the width of the upper anteriors may be helpful, since this dimension requires the exercise of more judgment by the dentist than any of the others.

The orifices of many mouths are really larger in proportion to the face than they seem at first glance. In such cases, as in those cases when the orifice is visibly large, the judgment of the dentist

must modify the location of the marks for the distal angles of the upper cuspids. This modification may be wisely guided in two ways. When the marks are deepened and black wax run into them, the bite may be returned to the mouth and the lips opened in smiling. If anteriors as wide as between the marks would be noticeably wide for that face, the marks may be brought together until the width would appear about



III. 26.

normal. The second guide as to the location of the marks will be found in their relations to the cuspid eminence. If the marks are far distal to these eminences their position will doubtless require modification.

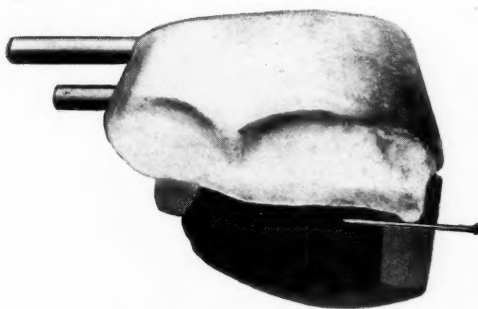
These modifications should not lead anyone to underestimate the value of these marks. Rightly used, they will be found of the greatest value and help.

The lingual surface is the surface of adaptation. It decides how well that mould shall fit the model and how well it shall suit other mechanical requirements. This surface presents three divisions as



shown in illustration No. 26. Of these the bite and shut may be at first considered as only one division, and later sub-divided. We have then the combined bite and shut as shown, and the ridgelap. The functions of these divisions are very easily discernible. The combined bite and shut should be no greater than the distance between the labio-incisal angle of the upper bite and the most dependent position of the upper ridge.

If the combined bite and shut of the central exceeds this distance, the tooth will not go to position without extensive grinding, even though it be of the correct length and width. If the combined bite and shut be much too short, it is likely to entail mechanical disadvantages, as



III. 27.—Section of upper bite with pin thrust through in proper relation to ridge.

will be seen later. The bite and shut of the central should be as nearly equal to the distance between the surface of the ridge and the labio-incisal angle of the bite as may be.

The method of determining the required length of combined bite and shut is very simple. Hold the upper bite so that the palatal surface may be seen, and thrust a pin horizontally backward from labial surface at the median line so that it will be on a level with the most dependent portion of the ridge, as in illustration No. 27. When properly done, the pin can be seen to just pierce the ridge surface of the bite as it passes. The distance from the pin-hole to the labio-incisal angle will then be the minimum bite and shut available for this case. As a matter of fact, the combined bite and shut may generally be a millimeter or so greater than this distance, because the ridge usually rounds inward enough to bring the pins slightly anterior to the surface rather than directly on top. But the value of this dimension as a starting point cannot be over-estimated.

When the length of combined bite and shut has been determined,

the length of bite may be decided upon. There is a constant cry by prosthetic workers for short bite teeth. This call must come from a lack of understanding of the advantages which are attendant upon the use of teeth having bites medium long.\* A medium long bite permits a thinner denture over the ridge, it has greater cutting power than a short bite; and it makes a pleasanter place for the tongue in speech and mastication.

The function of the ridgelap is simple. It is to continue the tooth upward along the labial surface of the ridge till it is of the desired length.

In many cases the shape of the ridgelap becomes important. A thin ridgelap permits the tooth to extend well up in front of the ridge without making bulk anteriorly. A long thick ridgelap assists in making bulk anteriorly when that is desired. A short ridgelap permits setting the tooth under the ridge, as is sometimes necessary.

*(To be continued)*

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DENTISTS FOR STATE INSTITUTIONS.—Governor Gillett, of California, has signed his State dental surgeon bill. This bill provides for the appointment of a State dental surgeon at a salary of \$200 per month. The dentist is to put in his time traveling among the State insane institutions, of which there are five, and attending to the dental needs of the inmates.—*Summary. (From Dental Register.)*

DISSOLVING CEMENT FROM CROWNS.—If a Davis crown pin should break from the root, the pin may be easily removed from the porcelain by boiling in equal parts of sulphuric acid and water. In a few minutes the cement will be entirely dissolved and the pin will drop out.

A piece of cement the size of a pea will completely dissolve in about two minutes.—DR. W. L. REED, Mexico, Mo., *Dental Register*.

TO SOFTEN MOLDINE WHICH HAS BECOME HARD.—It often happens that from frequent use, or long exposure to air, moldine loses its placidity. The usual method of adding glycerine is more or less unsatisfactory, even when all instructions are carefully followed. The best process to use is to place the moldine to be softened in a vessel, to which a sufficient quantity of water to cover the moldine is added. One or two spoonfuls of glycerine are added to the water. The moldine is then heated until the water has evaporated, after which the moldine may be found having its original placidity.—*Le Laboratoire*.

\* A medium long bite is three millimeters from the cutting edge of the tooth to the ledge above the pins.

## THE PRESERVATION OF THE DECIDUOUS TEETH

BY L. G. NOEL, D.D.S., NASHVILLE, TENN.

*Third Prize Article*

THE ignorance prevalent with the masses of the people regarding the importance of preserving the deciduous teeth until they are replaced by their permanent successors is truly lamentable. It is not only responsible for some of the most serious physical defects observed in after life, especially those pertaining to the permanent teeth and the facial expression of the individual, but for many derangements of the general health as well. Many otherwise well-informed people who have been expensively educated in all that concerns social and business life undertake the rearing of young families in utter ignorance of the importance of preserving the baby teeth through the brief period of their usefulness to the child.

This general lack of knowledge on a subject of such vital importance is truly surprising when we consider the care taken of domestic animals that are considered valuable and how books are consulted on their hygiene and the treatment of their diseases; how freely money is spent with the veterinary surgeon to treat the teeth of a valuable animal while those of the sons and daughters of the household are utterly neglected.

The medical world is awakening to the magnitude of the subject of oral hygiene, but they have overlooked the real starting-point of the matter, which it is to be hoped will arrest their attention by and by.

The health of the baby mouth and the proper development of the teeth during the period of infancy is the beginning not only of oral hygiene, but is the foundation of the health and beauty of the individual throughout life. I am often asked by parents, more frequently by mothers, "What is the use of filling the baby teeth? Are they not soon replaced by the permanent ones?" I usually commence my reply by this question: "If you need your teeth for the mastication of your food, how much more does your child need his teeth?" Then I proceed to show how decaying teeth derange the function of the mouth, and likewise the processes of digestion. How aching and diseased teeth in the mouth of a child may bring on a series of nervous disorders, dwarfing the development of the child in every organ, besides inflicting much pain and unhappiness.

Then I proceed to show how the too early loss of the deciduous teeth will necessarily mar the beauty and, to a very great extent, destroy the

usefulness of the permanent denture by producing irregularities of arrangement, mal-position and mal-occlusion.

I point out the contagious nature of caries of the teeth, and call attention to the early eruption of the sixth-year molars, the permanent incisors, the bicuspid, etc., showing how decay may be imparted to these precious members by standing in close relationship to so many decaying temporary teeth. Sometimes I go on to show how disease may be imparted to the tonsils, throat, lungs, stomach, bowels, etc., when so many pathogenic germs are growing and developing in the decaying and dead temporary teeth and the surrounding tissues which they have poisoned.

I show how the premature loss of the baby molars permits the first permanent molars to be crowded forward, closing the space nature has set apart for the bicuspid and cuspid, so that one or more of these must take a false position in the arch, resulting either in a bicuspid being crowded outside or inside of the arch or in throwing a cuspid out in the form of a tusk.

To this deformity may be added the train of ills that may arise from these causes: nervous disorders, such as chorea, etc.; faulty digestion and assimilation; arrested development and ills too numerous to mention. This picture is not overdrawn, and ought to be put before every mother and father in the land.

The baby denture is usually complete at the expiration of the twenty-fourth month. We say it is complete when all the twenty teeth have taken their places, although the growth of their roots is not complete until about the thirty-sixth month. We are frequently asked how soon the dentist should begin to watch over these little teeth? In reply to that question, we will say he should see the child often from the time the molar teeth commence to take their places. Whether his services are required or not he should make the acquaintance of his future patient thus early, and accustom the child to submit to the examination of his mouth. It is of first importance for the dentist to gain the confidence and friendship of children as early as possible for this, if tactfully accomplished, will render the future management of the patient easy. The confidence and affection of almost any animal may be won by kindness; in this respect children differ from the lower animals only in the possession of superior intelligence. Their love is easily gained by kindness and need not be lost by the infliction of slight pain, provided the child is made to see that such suffering as may be inflicted is for his benefit, and provided it be led up to tactfully and not suddenly before confidence is gained and affection bestowed.

It is amazing how quick children are to distinguish between the false and the true, how ready they are to detect deceit, and how confidently they trust themselves to those who really love them. They are no less ready to note the immediate benefit they experience from a skillful operation, and this is another means of winning their confidence and love.

The dentist must be tactful but truthful; practise no deceptions, and make practical demonstration of the benefits to accrue from his services. As in all medical service, the aim should be to prevent disease. Hence our early meetings with a child may be utilized to cleanse the teeth, to show the nurse and mother how this should be done, what dentifrice and mouth wash should be used, and how to use them, what brushes and flosses to get and how to apply them; and last, but not least, to give instruction as to suitable diet and proper mastication.

In the management of bottle-fed infants, every known care should be taken to prevent lactic fermentation in the food and in the mouths of the children. If milk is the food it should be sterilized milk only, and the most scrupulous cleanliness should be observed with nursing bottles and nipples, scalding them out with hot water in which bicarbonate of soda has been dissolved. Our efforts should commence with the appearance of the first teeth to combat fermentation, and if, in despite of all, a cavity appears, it must be immediately filled.

The first cavity will probably be a small pit in the occlusal surface of one of the molar teeth, and this, if detected in time, will be most successfully filled with a good amalgam.\* This material will arrest decay; will last out the period of usefulness of the tooth (and much longer); can be easily and quickly introduced; and if the fluids of the mouth cannot be excluded it may be placed in a wet cavity with a satisfying result.

This is more than can be said for any other material, and, besides, it is not offensive to the child if a bit of excess material is dropped into the mouth, it being perfectly insipid. Children who have borne up well will often break into open rebellion when a bit of sour cement comes in contact with the tongue.

Under these ideal circumstances, with the dentist always in charge and constantly on the alert, no large cavities need be permitted to form, therefore this material will be suited to all cavities in the posterior teeth, and if from inherent defects of structure or other causes cavities appear in the front teeth, these should be filled with a cement of suitable color to restore the beauty of the little pearls, and of a hardness to meet the requirements of use.

\* A heavily silvered alloy, like Standard or True Dentalloy.

If we have not been too confiding on short acquaintance, we think we shall find the Shoenbeck cement at least as good as anything we have for this purpose up to this time. The chief difficulty will be to keep the child still long enough to maintain dryness until the cement is hard enough to receive its coat of varnish.

This cement will be found suitable for all cavities in the anterior teeth, and in the preparation of the cavities all that is required is a thorough removal of all carious enamel and dentine. This cement is so very adhesive that no undercutting is required for its retention.

Since no amount of care will prevent the formation of cavities at the contact points of the molar teeth in the mouths of some children (especially those who in early infancy have been fed from "the bottle"), we shall have many cases of this kind to treat, and fortunate will be both patient and operator if these cavities are discovered and treated early, before the penetration is deep enough to endanger the pulps either to exposure in excavation or to irritation by thermal or electric induction through the filling material.

It will generally be necessary to open these cavities from the occlusal surface; the mesial may be treated as a simple cavity, just as if the first molar were absent and this tooth stood alone. Where both cavities are near the occlusal surface, presenting frail or broken marginal ridges, access is to be obtained by cutting both from the morsal surface, then thoroughly removing all softened enamel and dentine until good margins and firm walls are obtained.

In all these cases we should seek to preserve the contour of these teeth, and no disks or separating files should be used to gain access. To the end that space may be gained for properly filling and finishing, so as to leave normal and rounded contact points, gutta-percha fillings may be placed after the manner described by Dr. W. G. A. Bonwill—*i.e.*, building across the gum septum, filling both cavities at the same time without separation. These are only temporary fillings, and are to be worn just long enough to cause the forcing apart of the teeth, which will be brought about with great gentleness by the impaction of the gutta-percha in mastication. The cavities are then to be permanently filled with amalgam, and so finished as to preserve the contact points.

In cases where caries has penetrated the dentine to such a depth that the operator deems it prudent to interpose a non-conducting film or layer of suitable material between the pulpal wall and the metallic filling, the cavity should be made dry and coated with one of the rapid drying varnishes, such as gum mastic or resin, dissolved in ether. The judgment of the operator must decide if this will be sufficient. In a



few cases where the penetration has been deep a thin shaving of gutta-percha may be stuck to the pulpal wall by first coating the cavity with a varnish of resin dissolved in chloroform.

In many cases these molar teeth come to us with extensive cavities and aching. A careful removal of the softened dentine with spoon excavators will probably expose the pulp at some point. The pulp may be so infected and undergoing septic inflammation that its death is only a question of time, no matter what treatment we adopt, but it is our duty to relieve our little patient and bring about a painless death or a gradual recovery, if such be possible; therefore we treat as follows:

Apply oil of cloves, then fill the cavity with cotton saturated with carbolized resin. Leave this in place from twenty-four to forty-eight hours. The patient will probably report relief from pain. Remove dressing, wash with warm water, and cover the pulpal wall with a paste made by spatulating carbolized resin with oxide of zinc (the powder from a package of oxyphosphate cement) until a consistency of thick molasses is obtained; then fill the remaining portion of the cavity with oxyphosphate of zinc mixed thin, so as to prevent pressure upon the pulp in introducing it. In some cases all will go well and the pulp will retain its vitality, admitting of the placing of amalgam later, or the renewal of the cement until the tooth shall have served out its time. In case of its death, this treatment will usually prevent a painful abscess. There will probably be a little pain and some soreness in the tooth, a little tenderness upon percussion and too much motion, but none of the violent symptoms usually preceding alveolar abscess. We recognize the condition—a dead pulp—we open the pulp chamber and our little patient is relieved. We then proceed to treat as hereafter described.

Few cases of toothache in children's teeth call for the application of escharotic agents for devitalizing the pulp.

In many cases where the exposure is manifest, the bulb of the pulp may be anesthetized with cocaine by slight pressure and removed without pain.

It has been stated by eminent authors that nothing can be done with pulpless deciduous molars after the process of absorption of the roots has progressed far enough to open the canals wide at their ends. Other writers describe their methods of removing the pulps from these teeth and of filling the roots with gutta percha, just as in the case of permanent teeth, but it has been the observation of most practising dentists that the condition above mentioned will render the operation of root filling difficult and more than doubtful of success. This remark applies to the permanent teeth before the completion of root growth,

as well as to the deciduous teeth after absorption has shortened the roots. Any effort to broach these canals sets up a flow of blood, and if filling material could be introduced it would probably go too far and prove an irritant.

However, with the deciduous teeth these cases are not hopeless, and if a year or two of usefulness is worth a little effort the following course will nearly always succeed.

If the tooth has abscessed, the pulp chamber must be opened, and, if necessary, the abscess opened through the gum tissue that it may discharge freely. The tooth may be dressed with cotton, saturated with carbolized resin, until all soreness has subsided.

This condition obtained, the carious dentine is to be removed and the cavity shaped to suit the ideas of the operator. The pulp chamber is to be washed perfectly clean and treated with silver nitrate in the following manner: roll a small ball of absorbent cotton, large enough to fill the pulp chamber, soak this in water; then dip into powdered silver nitrate until it will take up no more and pack it into the pulp chamber. Over this put a dressing of cotton saturated with carbolized resin. Leave this treatment in the tooth a week, then repeat it and leave the second treatment another week. At the expiration of a fortnight cleanse thoroughly, washing out with dioxygen, and fill the pulp chamber with copper amalgam, making no attempt to broach out the root canals, or to fill the roots further than the amalgam can be easily forced. The entire cavity of decay should be filled at the same time with the same material.

Almost any pulpless deciduous molar may be managed in this way and alveolar abscess will never follow.

The absorption of the roots may be checked, but the tooth will give place to its successor without ill results. No discoloration of the permanent teeth will result.

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HOW TO PROTECT GOLD WORK FROM AMALGAMATION.—Before inserting an amalgam filling in a mouth containing gold, especially if the amalgam is in close proximity to a gold filling or crown, dry the gold work and varnish it with a coat of sandarac varnish.—A. F. DONAHOWER, Philadelphia, *Dental Register*.

## REPORT OF THE PROPOSED DENTAL EDUCATIONAL AND HYGIENE WORK IN THE CLEVELAND PUBLIC SCHOOLS\*

BY W. G. EBERSOLE, M.D., D.D.S., CHAIRMAN

*Committee on Oral Hygiene, National Dental Association*

Do not pass this report by as being "too scientific" or "too dry." When you realize its importance, you will read it with as much interest as a letter that contained a check. For this is one of the most promising things that has occurred in dentistry for a long time—full of practical promise to every one of us. You can't see it now, because you haven't all the information, but this promises more patients and better patients than dentistry has known in the past.

It is an actual definite beginning in a systematic way, to impart practical dental information at the point where it can do most good, that is to the children.

For a whole year consistent, intelligent instruction will be afforded to the pupils of at least one school concerning the uses and care of the teeth. Do you think you could interest and educate parents so effectually by any other means? Indeed you could not. And wherever these children move or live in after years, this training will never be forgotten.

This is only a beginning. Watch it. And whenever you read the names of these committeemen who have done this thing, read them as the names of men who have done the profession a great and meritorious service.—EDITOR.

MR. PRESIDENT AND GENTLEMEN OF THE CLEVELAND DENTAL SOCIETY:

Your Committee on Education and Hygiene beg to submit the following report:

At the last meeting of this society this committee asked and received the privilege of having this meeting devoted to the reception and full discussion of your committee's report instead of a paper by the chairman of the committee.

This being the case, your committee believes that a brief résumé of the work undertaken and accomplished by your committee be submitted prior to the presenting of this report, which has received full and careful consideration of not only the committee of three, but also of the large committee consisting of twenty-two men.

Bear with us, then, for a few moments while we give a little history of this undertaking.

The first committee for Educational and Hygiene work, under another name, was appointed at the September meeting in 1898, a little

\* Read before The Cleveland Dental Society and printed through courtesy of *The Dental Summary*.

more than eleven years ago, following the reading of a paper entitled, "Are we, as dentists, doing our full duty to Humanity and the Profession?" written and presented by the chairman of your present committee. This committee was composed of Drs. Geo. H. Wilson, Weston A. Price and William G. Ebersole. This committee undertook some extensive work in the way of education, in the public schools; in having a competent dentist placed upon the medical faculties, that the student might learn at college the fundamental principles of dentistry, at least, and in having district dentists appointed.

The efforts of the committee met with a lack of appreciation on every side, by the Society, the Board of Health, the Medical Faculties and the Board of Education. The only avenue that the committee was able to open at that time was through Superintendent Jones, of the city schools.

Superintendent Jones agreed to send to the teachers instructions to teach any rules relative to the care of the teeth that your committee might draft. The committee prepared and presented to the Society data which it believed should be presented to the public school pupils.

The report made by the committee was so severely criticised that it became necessary to eliminate most of it. The matter prepared by the committee, after being censored and then adopted by the Society, was printed and distributed to the teachers who presented it to the pupils at that time. Some of the teachers use now, practically, what was presented then.

Later the committee advised the establishment of a lecture course to be given to the teachers; this the Society refused, as it did most of the recommendations of the committee, which was so discouraging that the committee undertook and accomplished but little. During the third year, however, the chairman undertook and succeeded in having some changes made in the instruction given in the course in Physiology, the point being gained of having a short chapter devoted to the teeth only. The subject matter of the chapter, however, bore only the merest resemblance to that which was presented. This was the best that could be done and was only possible by making use of the influence of the Superintendent of Public Schools, Mr. Jones.

During the year that followed, other attempts were made in various directions, with little results, except that each effort had some educational value to the Society.

The next notable effort which produced any results was the organizing and maintaining of a free clinic at the City Hospital two or three years ago. The prime movers in this work, headed by Dr. George H. Wilson and your chairman, planned to have this clinic held at the City

Hall, where it would be before the public. The moving of it to the City Hospital caused the loss of most of the influence it was expected to exert, and the results were very discouraging and unsatisfactory.

Two years ago next month the present committee was appointed and the chairman instructed to do something, but nothing that would stir up any contention.

A year ago last May your committee asked the society to give them an expression as to the kind of work it desired to have done.

At that time we were instructed to prepare a pamphlet for office distribution and take up the question of presenting instruction through the schools. A campaign was mapped out which called for the members of the committee to familiarize themselves with all that was being done in the matter of dental education for the laity.

A member of the committee, at his own expense, made two trips to Rochester, two to New York and one to Boston, the main centers in this work. Another member made a trip to Rochester, and on a trip to the Pacific Coast gathered data from that quarter. A trip was also made to Birmingham, Ala., where one session of the National Dental Association was devoted to the question of Oral Hygiene. The work and enthusiasm shown by the Cleveland delegation at that meeting resulted in the bringing of Oral Hygiene headquarters of the National Dental Association to Cleveland, which was already the headquarters of the Ohio State Committee on Oral Hygiene.

With the knowledge and the data secured, your committee, every member of which had served on the committee from three and one-half to seven years, began a campaign for admission to the public schools.

By persistent and untiring efforts applied in every direction which would shape the public mind to receive our proposition, we succeeded in obtaining a hearing before the Board of Education and obtained permission to examine the pupils in four representative schools.

Within seventy-two hours after the schools were assigned and the day set, your committee, aided by the chairman of the Ohio State Dental Society Committee, organized and set to work forty odd men to make this examination.

The pupils of the schools—Murray Hill, Doan, Watterson and Marion—were examined in one day. Two thousand six hundred and seventy-seven pupils were examined, showing practically 97 per cent. of the children in need of attention from a hygienic standpoint.

Following this a campaign was begun through the press and otherwise, which resulted in our being able to obtain the results which will appear later in the report.

As a result of the examination made, the following petition was presented to the Board of Education:

To the Honorable Members of the Board of Education of Cleveland, O.:

Greeting:—

The National Dental Association, through the Chairman of its Committee on Oral Hygiene, the Ohio Dental Society, through the Chairman of its Committee on Oral Hygiene, and the Cleveland Dental Society, through its Committee on Oral Hygiene, beg to submit the following report of the examination made last June in four of the representative schools in the city of Cleveland.

This examination of the pupils of the Cleveland Public Schools was made by the Cleveland Dental Society, under directions of the Chairman of the Committee of Oral Hygiene of the National Dental Association, and is as follows:

	Murray Hill	Doan	Watterson	Marion	Total
Number of Pupils Examined .....	864	691	298	824	2,672
Condition of the Mouth:					
Good .....	346	132	135	244	
Fair .....	381	429	99	336	
Bad .....	134	117	63	241	
Condition of Gums:					
Good .....	594	504	221	477	
Bad .....	253	169	73	300	
Use Tooth Brush:		...			
Yes .....	101	524	193	243	
No .....	762	161	100	456	
Teeth Filled:					
Yes .....	9	275	102	72	
No .....	843	404	191	707	
Mal-occlusion:					
Yes .....	230	421	93	343	
No .....	633	452	169	308	
Teeth containing Cavities ...		641	257	745	
Teeth Extracted .....		89	14	125	
Nationality:					
American .....	25	657	198	116	
German .....	4	1	20	73	
English .....	4	6	45	11	
Italian .....	828	1	7	420	
Russian .....	1	...	...	...	
Slavish .....	1	...	...	...	
Bohemian .....	...	1	...	...	
Swedish .....	...	2	3	...	
Irish .....	...	...	...	9	
French .....	...	...	1	...	
Norwegian .....	...	...	7	...	
Polish .....	...	...	...	49	



	Murray Hill	Doan	Watterson	Marion	Total
	p. c.	p. c.	p. c.	p. c.	
Number of Perfect Mouths..	62—7.17	20—2.9	14—4.69	13—1.5	} 2677
Number of Defective Mouths	802—92.83	671—97.1	284—95.31	811—98.43	
Number of Cavities .....	3,920	4,294	1,342	5,505	

The above report is not as complete and accurate as we had hoped to obtain, due to the haste with which the work was done, and to the fact that a number of the examiners failed to fully interpret the instructions given relative to this examination.

In marking the general conditions of the mouth as good, fair or bad, quite a number of our men thought that it related to the teeth alone, and, unless cavities were found, mouths were marked good when, although the teeth were free from decay, the oral conditions were decidedly unhygienic.

The purpose of this examination was not to show simply the condition of the teeth of the pupils, but to show the general oral conditions.

The above was made under the following rules and regulations:

#### RULES AND REQUIREMENTS FOR EXAMINATION

First. Men must report at schools at 8 A.M., that they may get located and ready for work before schools open, it being necessary to explain to the teachers what to expect and how they can aid you.

Second. Each examiner must have a lady assistant to help keep records and care for instruments.

Third. Each examiner must provide the following:

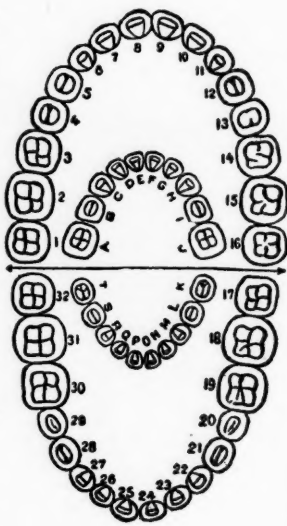
1. Six mouth mirrors. This is imperative.
2. Two pairs pliers and good lead pencil.
3. One cotton-holder and cotton.
4. One alcohol lamp for warming mirrors for use. (Dries off alcohol and also prevents condensation of breath.)
5. Two glass tumblers, one for carbolic solution and the other for alcohol.
6. One dish for soap and water for scrubbing mirrors.
7. One cake fine-soap.
8. Towels and napkins (Society will furnish napkins).
9. Carbolic acid and alcohol will be furnished.
10. Files will be furnished for filing the blanks, when finished, by the assistant.

Fourth. Examinations must be made by mirror only—remember this, by mirror only.

Fifth. No examination with explorer will be permitted.

Sixth. Examiner sits with back to light and has pupil step up between his knees and open mouth and examine without touching mouth with hand. (This is necessary owing to the lack of facilities for washing the hands.)

Date .....	
Name .....	
Age .....	
School .....	
Grade .....	
Condition of Mouth .....	G.....B.....
Condition of Gums .....	G.....B.....
Use of tooth brush,	Yes.....No.....
Teeth filled,	Yes.....No.....
Mal-occlusion,	Yes.....No.....
Nationality.	
American .....	
English .....	
German .....	
Irish .....	
Italian .....	
Russian .....	
Polish .....	
Slavish .....	
Bohemian .....	
Austrian .....	
French .....	
Swedish .....	
Norwegian .....	
By .....	D. D. S.
	Examiner.



Seventh. In making record, follow chart. If mouth is good, simply mark across the letter "G." If fair, mark across the letter "F." If bad, mark across the letter "B." Mark the same for condition of gums. If use tooth-brush, mark across "Yes," if "No," mark the same.

Eighth. In marking diagrams, start at upper right side of mouth, which corresponds with No. 1 of the permanent teeth and letter "A" of the deciduous teeth. If a cavity is found, simply draw a line through the tooth indicated on the chart. If two or three cavities, draw two or three lines through that tooth on the chart.

Ninth. Instruments must be cleaned in soap and water and immersed in carbolic solution until needed, then dip in alcohol bath and

pass over flame of lamp to dry and warm, but not hot enough to burn child's mouth.

Tenth. The blanks are to be placed in the hands of all the children, when starting the work, for them to fill in name, age, school and grade. (This will save time.)

After allowing for the faulty work done through the above explained misinterpretation of instructions, and after going over every examination blank to find the number of mouths showing no defect, the committee report that practically 97 per cent. of the pupils of the public schools are in need of either instruction in the use and care of the mouth and teeth, or require actual dental service to render the oral cavity healthy and capable of performing its full physiological function. The condition found in these schools is mild as compared to the condition that would be found could an equal number of the representative adult citizens of this city be examined.

The condition is so appalling, and the rapidity with which it is growing worse is so alarming, that those who have given the subject the most thought and consideration feel that the only possible way to meet and resist this "disease of the people"—caries of the teeth—is by general public instruction in the care and use of the mouth and teeth. The public school system of the city offers the best opportunity to spread both knowledge and training in this direction and to show the great value of such care and attention from an economic standpoint.

We, therefore, petition your Honorable Board of Education as follows:

1. That you permit us to place through your Board, in each school, a competent dental inspector who shall make a careful and complete report of the conditions, together with recommendations as to needs of the pupil, and furnish copies of records with one each for the parents, the school authorities and the dental societies.
2. We desire your sanction to establish four centrally located clinics, where the indigent poor may receive proper care and treatment.
3. We would particularly desire to establish in connection with one school (preferably Marion) a clinic where all the pupils *could* receive care and treatment necessary to place all mouths in as perfect a hygienic condition as possible. (Object to show the increased working capacity of the pupil and the diminished tendency towards infection and contagion.)
4. We seek the privilege of establishing a series of practical and illustrated talks (using lantern and other necessary aids) to be given in the assembly rooms of the various buildings. Such talks to cover the question of the importance of the teeth, their care and use, *particularly*

*their* USE and why they should be used, the kinds of food and the attention they should receive in the mouth. These talks to be given for the benefit of the parents, teachers and pupils in the various schools.

In return for the above privilege, the societies above mentioned agree to furnish suitable equipment and supply competent operators for each clinic, and to establish and conduct the system of short talks and demonstrations for one year, free of any expense to the Board of Education or the State of Ohio. The members of our profession, realizing the gravity of existing conditions, are making this proposition from a purely altruistic standpoint.

#### OBJECTS

First. To show the general public conditions as they actually exist.

Second. To show that by proper instruction and care of the mouth, that from 50 to 75 per cent. of the illnesses among school children will be eliminated.

Third. That with the mouth and teeth in perfect condition and the food properly cared for while in the mouth, the working efficiency of each pupil will be increased from 50 to 200 per cent. (according to Horace Fletcher).

Fourth. To secure data which will cause the State to establish and maintain such inspection and care as will insure the best possible working efficiency in our schools.

Fifth. To secure data and solicit the support of the public in checking and stamping out a condition which is fast undermining the life and health of the nation, a condition which, if the dental profession was doubled and trebled many times, there would not be enough members to handle it.

Trusting that you will grant our petition and thus set Cleveland schools and Cleveland in the foreground of this great reform work, we are,

Most respectfully,

National Dental Association,

W. G. EBERSOLE,

*Chairman Oral Hygiene Committee.*

Ohio State Dental Society,

W. T. JACKMAN,

*Chairman Oral Hygiene Committee.*

Cleveland Dental Society,

W. G. EBERSOLE,

J. R. OWENS,

W. A. PRICE,

*Educational and Oral Hygiene Committee.*

After a tremendous amount of work and performed under difficulties which seemed insurmountable the Committee secured the unanimous adoption by the Board of Education of the resolution which was presented to you at our last meeting, which reads as follows:

No.—

Mr. SAYLE.

RESOLVED, By the Board of Education of the City School District of the City of Cleveland, that the position of the National Dental Association, the Ohio State Dental Society and the Cleveland Dental Society, asking permission to make dental examinations of all pupils in public schools for one year, beginning January 1st, 1910, be granted.

2nd. That they be permitted to establish four centrally located clinics where children who cannot pay for the services may be cared for, free of charge, the need of free service to be vouched for by the parent or guardian and teacher on a properly worded card.

3rd. That the request for the use of school buildings for talks to parents, teachers and children upon the importance of the proper care and use of the oral cavity, the influence of proper mastication, that the best results may be procured from a nutritive, digestive, hygienic and economic standpoint, be granted, and that the supervision of these talks be placed in the Social Center Committee.

4th. That the petitioners shall furnish all equipment, material and service, and that no financial obligation shall fall upon the Board of Education, except the supply of properly lighted rooms with water, gas and electric connections.

5th. That all arrangements for carrying out these resolutions be placed under the Director of Schools, and that a report of results be filed by said dental association with the Board of Education January 1, 1911.

W. D. SAYLE, *Chairman.*

G. C. ASHMUN,

J. C. CANFIELD,

Committee.

The above report was received, the recommendations of the Committee endorsed and instructions given to prepare and present to the society plans for the execution of the work.

The Committee then asked that a committee of fifteen men be ap-

pointed to act with and under the committee of three in the preparation of these plans, and the following men were appointed:

Dr. Henry Barnes,	Dr. D. H. Ziegler,
Dr. W. Q. Bissell,	Dr. Ira W. Brown,
Dr. W. T. Jackman,	Dr. J. W. Culver,
Dr. M. D. Neff,	Dr. T. B. Johnson,
Dr. W. A. Siddall,	Dr. E. L. Pettibone,
Dr. Chas. K. Teter,	Dr. J. F. Stephan,
Dr. G. H. Wilson,	Dr. S. M. Weaver,

Dr. W. H. Whitslar.

These with members of Education and Hygiene Committee, Drs. W. G. Ebersole, J. R. Owens and W. A. Price, made a committee of eighteen men.

Later the committee of three asked that the entire Executive Committee of the Society be added to the sub-committee.

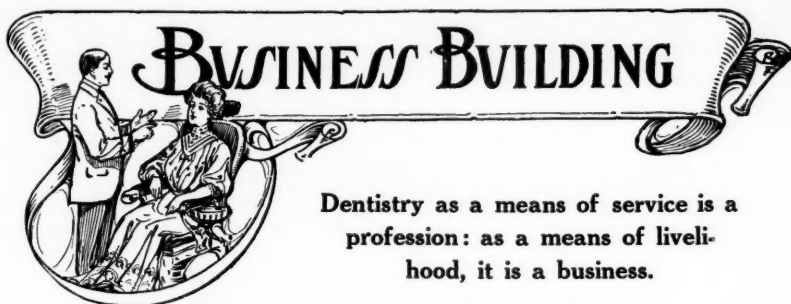
The request received the endorsement of the large committee, and Drs. Frank Acker, J. T. Newton, W. S. Sikes, H. R. C. Wilson were included and responded to the call, making a committee of twenty-two.

*(To be continued)*

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PAPER DRINKING CUPS.—The wave of sanitary reform just now so much in evidence has brought to the fore many new appliances and suggestions. The possibility that serious disorders, such as tuberculosis, syphilis, etc., may be communicated from one to another by the promiscuous use of a common drinking cup in public places has led to the introduction of inexpensive paper cups. These are so cheap that after once using they may be thrown away. Permit me to suggest their use in the dental office. They will certainly be appreciated by up-to-date patients, and prove a safeguard against infection second only to careful sterilizing of our instruments.—DR. OTIS TROTTER, Quincy, Ill., *The Dental Brief*.

CRESOL.—Cresol, a powerful germicide and a homologue of phenol, is about three times as powerful as the latter, and when used in putrescent pulp canals is believed to unite chemically with the fats of decomposing proteid to form lysol, a good antiseptic.—DR. E. B. LODGE, in *The Dental Summary* (*Dental Register*).



**Dentistry as a means of service is a  
profession: as a means of liveli-  
hood, it is a business.**

### **ORAL PROPHYLAXIS SYSTEMATIZED]]**

BY ROBIN ADAIR, M.D., D.D.S., ATLANTA, GA.

THIS paper is a simple statement of my work in Prophylaxis and the system with which it is carried on. It will contain no theories or argument nor scientific matter, but facts of practical value.

Some few years ago I heard Dr. D. D. Smith of Philadelphia read a paper at Washington, D. C., and afterwards had the pleasure of seeing him in his office work. I became enthusiastic and came home with the intention of doing something in this new branch of dentistry.

At this time there were few papers on the subject except that of Dr. Smith. So I started trouble by compiling a little booklet on "Prophylaxis"; with extracts from several papers. One page "What is Oral Prophylaxis?" another "The Treatment Used"; and "What Are The Results?" were the contents.

This little folder was mailed to the patients whose names were on my books. A few patients accepted my call—more than I expected. The booklet had another result that I did not count on. Some of my people had become ex-patients; some had two or three dentists for the family. One prominent dentist at the time told me how horrified he was because one of his patients had actually gotten one of these pamphlets. I told him how very sorry I was, and that I hoped the information it contained would in no way hurt his practice or patient. I just mention this to show how the matter of educating our patients has changed.

Well, I went through the usual criticism from dentists who told my "chosen few" that I was "ruining their teeth," and that "they would not have any enamel on them in six months," but I got a modest little crowd started and we called it "Prophylaxis Class." I did not know whether I could make good or not so I only charged them \$12.00 per year for twelve treatments, of thirty minutes each month.

The next year the growth of the "class" made me feel that some good was being done, so I began to charge \$15.00 per year.

The third year I knew I had made good and I began to look about



for some way to make the class a definite and permanent part of my practice. This is the way I handled it: I fixed the list so that one or two of these patients would be present each day. They were 'phoned the day before. The fourth year I found the "cream" of my practice on Prophylaxis, and more time and system necessary. And now came my trouble—How to systematically give so large a number of patients this treatment each month and do enough other work to make a living was a problem. I read all the magazine articles on Prophylaxis—of how others did it—the beautiful results. Heard many talks at dental conventions and went to see these "song birds" to find out that in many cases there was no Prophylaxis going on in their offices, except at the point of their pens and tongues. So I thought of giving it up altogether; but when I viewed the fine results and thought about how hard I had worked for years to build it up I could not then desert my patients.

Another raise in fees; and the second Monday, Tuesday, Wednesday, Thursday, Friday and Saturday in each month were set aside *exclusively* for this work. This would enable me to treat on an average fifteen patients each day, or one hundred for the week. It was out of the question to 'phone so large a number, so I had printed a card of notification which was mailed the day previous to the appointment. A large number to treat and nothing else on hand made it very interesting both to myself and patient. But it was hard work and did not amount to as much financially as regular work would have been, and besides my best and richest patients were beginning to have little or no dental work to do as a result of these treatments. About this time Brother Bill's Letters in the Digest began to disturb my equilibrium and caused me to again shift my methods.

I wanted my old college chum to keep up his Prophylaxis. He had been with me from the start; but he could not pay a large fee, because he was a bookkeeper on a small salary. So I did what I thought was best. (I mention all these details to warn the reader of the many methods I tried and how to profit by my varied experience.) I secured a dentist assistant; didn't get a young "buck" who would soon open another office with my patients, but a settled man who could command the honor and confidence of my patients.

Some few patients were persuaded to try him but they soon realized that he couldn't do it like the original. I tried hard to teach that fellow, but he was not the proper kind of "crank" that it takes to work this treatment. My patients being dissatisfied, I had to again take up the work for another year.

It makes a big difference whether a fellow is well paid for his

work or not, and I knew if I were better paid I would feel more like giving a week to this work. But then there were several cases like my college chum who must not be raised on.

Now I had always thought like Dr. Smith, "that this work was the best service I rendered" and that it required more skill and should be well paid for, but then there was the class represented by my faithful bookkeeper's family.

The final result of it all was that I did the thing so much condemned by Dr. Smith but advocated by Dr. Rheim—engaged the service of the dental nurse. I advertised and talked with 150 applicants before I accepted a middle-aged trained nurse who now does the larger part of this work in my office. She first helped me at the chair, then took a course by reading everything published on the subject; she also brought in her kinsfolks' children and her friends to practise on. On regular patients I would do the difficult part and have her finish the treatment. Thus she became proficient and self-confident, while the patients are delighted with the novelty of the idea.

**DR. ROBIN ADAIR**

**RESPECTFULLY ANNOUNCES TO HIS PATIENTS  
THE SERVICES OF A TRAINED DENTAL NURSE  
TO PRACTICE ORAL PROPHYLAXIS UNDER HIS  
DIRECTION AT A MINIMUM FEE.**

**THE TRAINING OF CHILDREN IN THE PROPER  
CARE OF THEIR TEETH HER SPECIALTY.**

**502 LOWNDES BUILDING  
PHONE MAIN 2442**

The above card was sent out to all my patients to let them know about the dental nurse. When I saw she was a success I quit the work, except to those who were willing to pay well for my service, and sent out, as per suggestion by Bro. Bill, a card like this:

**DR. ROBIN ADAIR**

**RESPECTFULLY ANNOUNCES THAT ON DECEMBER  
THE FIRST HIS FEES FOR ORAL PROPHYLAXIS  
WILL BE ADVANCED.**

**502 LOWNDES BUILDING  
NOVEMBER 26, 1909**

Now let me describe what happens when a patient—Mr. Jones—is talked into or expresses a desire to take Prophylaxis treatment. He is given the pamphlet, as described in first part of this paper, with instructions to read it and come back the next day. I must know that he understands the demands and that he is willing to follow instructions.

When he returns I usually say "I would like to give you an appointment to suit you. I can give you Monday morning at 9 o'clock or Friday at 3 P.M." He takes Monday morning and his name is entered.

Part of Page from "Permanent Engagement Book"

Prophylaxis Engagements for the Second Monday in Each Month

8:30—MRS. BILL SMITH

419 Piedmont Avenue

'Phone 490

9:00—MR. FRANK JONES

43 Peachtree Street

'Phone 8960

10:00—MISS RUBY SIMPSON

76 Johnson Avenue

'Phone 2442

The day before his first engagement he receives a postal card with his dates, thus:

DATES FOR PROPHYLAXIS TREATMENT  
PRESERVE THIS CARD

Jan.	Monday - 10	at 9	O'clock
Feb.	" 14	" "	" "
Mar.	" 14	" "	" "
Apr.	" 11	" "	" "
May	" 9	" "	" "
Jun.	" 13	" "	" "
Jul.	" 11	" "	" "
Aug.	" 8	" "	" "
Sep.	" 12	" "	" "
Oct.	" 10	" "	" "
Nov.	" 7	" "	" "
Dec.	" 12	" "	" "

A reminder card will be mailed previous to each date, but failure to receive such notice does not entitle patient to another engagement in the same month without extra charge, unless failure to be present is due to unavoidable cause, in which event notice must be given several hours in advance.

The charge for Prophylaxis is by the year for twelve regular engagements, and is payable semi-annually in advance. If for any cause these treatments be discontinued before the expiration of contracted time a charge of \$5.00 will be made for each date up to the time notice is received to discontinue.

Appointments are not to be changed more than three times per year.

For each succeeding engagement he gets a postal card very similar, like this:

**YOUR ENGAGEMENT FOR PROPHYLAXIS IS**

**AT**

**O'CLOCK**

The charge for this treatment is by the year from date of first engagement and is payable in advance

The date and hour is fixed, if possible, to conform to convenience of patient

and is not to be changed oftener than twice a year

As this time is reserved, failure to meet engagement results in loss to patient and cannot be made up

unless the absence is caused by Providential hindrance, in which event

notice must be given a day in advance

ADAIR & ADAIR, DENTISTS  
802 LOWMEYER BUILDING BELL PHONE 2442  
ATLANTA, GA.

At the first appointment we enter the charge for the year. On the ledger sheet we enter a note of all small cavities, defects and the general condition of his mouth. At the first treatment Mr. Jones is sold two brushes, floss silk and dentifrice cream, and taught their use. One brush has his name on the handle and is left in my office to be used for further teaching at each appointment.

Our printed instructions are a modification of those used by Dr. Kells of New Orleans.

### Directions for the Proper Care of the Teeth

Upon RISING the teeth and gums should be most carefully, thoroughly, and CORRECTLY BRUSHED—using a soft grade tooth brush and "AA Dentifrice Cream."

After BREAKFAST, waxed floss silk should be passed between the teeth (be careful not to snap it down hard upon the gums, as this would injure them) or a quill tooth pick should be used—never use a wood tooth pick.

After DINNER or luncheon, when possible, waxed floss silk or a quill tooth pick should be used and the mouth most thoroughly washed with "AA Dental Mouth Wash," if convenient—otherwise with clear water.

After SUPPER repeat the above.

Just before RETIRING the teeth should be again thoroughly and CORRECTLY brushed with "AA Dentifrice Cream" and the mouth thoroughly rinsed with "AA Dental Mouth Wash."

Don't brush across—brush the under teeth up and the upper teeth down—brush hard—you cannot injure the teeth or gums with "AA" preparations; the gums will soon become hard, firm and healthy.

For foul breath nothing equals the pleasant odor, taste, and antiseptic qualities of "AA Dental Mouth Wash," which should be used in good, big mouthfuls and retained as long as possible. Keep the teeth shut and alternately distend and draw in the cheeks, forcing the fluid between the teeth.

Nothing short of the above constitutes good care of the teeth.

ROBIN ADAIR.

(Tuck this card above toothbrush holder.)

Mr. Jones at first may not understand all this "monkey business" of dates and cards, but the system makes him very much interested. About the third visit the result becomes apparent, and he is my "patient to command."

The system described has been evolved out of a five-year study for the best method to handle this work. Our mechanical technic is about the same as that so admirably described in *Cosmos* for November, 1909, by Dr. Kelly, of Portland, Maine.

The system I use is not complicated and automatically enables me to handle quite a large amount of this work. I hope the reader will find herein some suggestion which can be modified to fit his needs.

### OBSERVATIONS

BY FREDERICK CROSBY BRUSH, D.D.S., NEW YORK

On the editorial page of a leading New York evening newspaper there appeared recently the following comment:

"Nervously she turned over the last month's magazine on the table in the doctor's waiting room.—From 'The Feint,' by Mabel Herbert Urner."

"We hate to challenge a lady, but what doctor's waiting room, Mrs. Urner, ever contained magazines so recent as last month's?"

This may have been intended as a joke, but how unfortunately true it is, and what a reflection upon men that pride themselves on being progressive and of having the comfort of their patients uppermost in their thoughts? And what a mighty poor business policy and how little forethought it shows! A doctor's office is probably, of all places, the last one that people would elect to go from choice, especially if they are to be ushered into some half lighted, overheated room, where the air is laden with the odor of drugs and perpetually stale from the lack of ventilation and sunlight, and be asked to sit there and wait for what seems an interminable time with nothing to occupy their thoughts but the ailments that brought them there. If there is any one part of a doctor's establishment that is more uninviting than another it is usually the reception room, the place where patients have the first opportunity to take the measure of the man, and it is here where sus-

ceptible patients usually develop a good case of nerves before entering the operating or consulting room and get themselves into the worst possible condition for undergoing a painful or protracted operation. After such an ordeal the patient leaves the office with a feeling of having undergone a tremendous nervous strain and wishes to put off the evil day of a return visit as long as possible.

The man who first said, "Show me the office and I will know the man," was not very far wrong at that. We are all creatures of habit and it is next to impossible for a man to be clean, careful and systematic about some one thing while he is slovenly and thoughtless about everything else. When an operating room is in disorder, the floor strewn with foul cotton dressings, the operating table littered with unclean instruments, no place for anything and nothing in a suitable place, it is a dead certainty that *that* man will overlook or neglect many of the details of an operation: details that may mean health or disease to the patient or the success or failure of the operation, because the instrument needed was not at hand at that moment or not fit to be used, or because carelessness has become such a fixed habit that he neither sees nor cares about such a minor thing as detail.

One of our brother practitioners, and a brilliant man at that, had become devoted to photography as a hobby and he exhibits his work to his patients with great pride; but in doing this work his hands become stained with silver and other chemicals and while he knows that he washes his hands and that the stains will not come off, his patients do not and as he points to some specimen of his artistic skill the patients observe his stained and dirty looking hands and mentally shudder. Hobbies are good things, but a wise man will select one that will not make him repulsive to his patients.

Surroundings indicate the man and again the man is influenced by his surroundings; if he is careless and allows the physical things about him to run down, it is a pretty sure indication that he has become careless and is running down mentally.

What if patients do borrow the magazines? Go buy others and then others; they are cheap and it will prove a good investment, and perhaps while buying one you may by chance look it over and thereby get a new idea and that won't hurt you any.

Take a walk around the block and enter your own reception room as though you were a stranger and look about you critically and see how it impresses *you*.

## HOW DENTISTS ARE EDUCATING PATIENTS

Dr. A. C. Runyan issues a neat little book of sixteen pages and cover containing sensible advice and some illustrations. The cover is of green stock printed in two colors. Here are a few extracts from the text.—EDITOR.

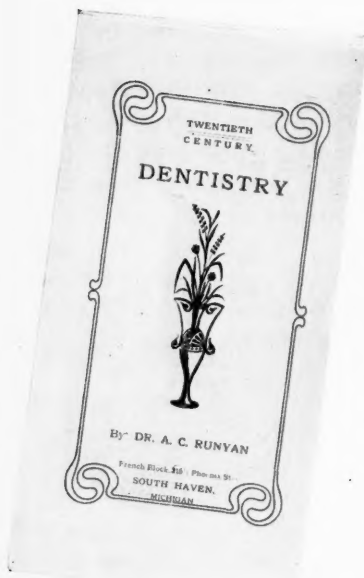
### PREFACE

The object of this little booklet is to call attention to the necessity of the care of the human teeth, and in cases where the natural organs have been lost through disease or neglect to point out a few of the many means that can be employed to restore them to their normal usefulness.

To those who are interested in this most important subject and are willing to help restore to the human race that which is being lost to them through neglect, this book is dedicated. . . .

### A STITCH IN TIME SAVES NINE

The Twentieth Century Dentist recommends that the teeth should have attention from the time that they begin to make their appearance, which is from the fifth to the seventh month after birth. Select your dentist as you would your physician, and have your little ones' teeth looked after regularly. A great deal of suffering can be spared the child and many sleepless nights can be avoided by the parents. Besides this, many deformities and irregularities of the dental arch could be corrected easily if proper care was taken early in life. Teach the child the necessity of cleaning the teeth and mouth. The critical period in a child's teeth is between the ages of five and thirteen. The complete temporary set is usually in at three years, and these teeth should be as carefully cared for as the permanent set, which usually begins to erupt at about the sixth year, at which time the first permanent molars are erupted immediately back of the temporary molars, and are almost always mistaken for temporary teeth by parents, and frequently become so badly decayed that they are past saving before the dentist is consulted regarding them.





There are probably more deformities caused to the human face and mouth by the loss of the first permanent molars than by any other one cause.

#### CLEANLINESS

It has been stated that if the mouth was kept absolutely clean there could be no decay of the teeth. However true that is, it is nevertheless a fact that the teeth are much less liable to decay if they are kept thoroughly cleaned and sterilized by brushing after each meal and before retiring and using some good antiseptic mouth wash, such as borolyptol, lysterine, or enthymol. Every individual owes it to themselves and their friends that their mouth and breath is in a healthy condition. Every mouthful of food taken into the system and every breath inhaled or exhaled may become contaminated by the decaying matter around the teeth and gums.

Those who are so unfortunate as to have decayed teeth and diseased gums should not delay in having the mouth put in a sound, healthy condition. Every adult should have thirty-two teeth, and it is claimed that the loss of a tooth shortens one's life one year, so every means should be employed to prevent the loss of a tooth, and should it become necessary to lose one it should be replaced by an artificial one, so that the contour of the jaw and face be preserved.

#### TOOTHACHE

If the foregoing rules have been observed, there is no necessity of having the toothache. Toothache is but one of nature's alarm signals calling attention to neglect, and it should have immediate attention. Plain oil of cloves applied in the cavity or a pellet of cotton is probably the safest and surest local home remedy. As a rule, creosote, carbolic acid and such remedies should only be applied by experienced hands. Visit your dentist at once, as it may save you a valuable tooth, and it will certainly relieve you of pain and inconvenience.

#### TOOTH FILLING

So far we have devoted our space to the care and preservation of the natural teeth. To those who have decaying teeth there are now many ways of making good and useful members of them. The different filling materials are now almost perfect. The cements and amalgams make good, cheap fillings, and preserve the teeth well. Gold has been

the old standby, and will be used more or less for some time. The porcelain inlay for those cases where gold is unsightly is the most æsthetic filling, and most nearly resembles the natural teeth.

#### CROWN WORK

There are cases where the tooth has become so badly decayed that they will no longer hold a filling. These teeth were formerly extracted. Now, if the roots are sound, they can be capped or crowned either with gold or porcelain, and be made to do good service for years, thus doing away with the necessity of wearing a plate or leaving an unsightly space in the arch.

It is one of the important features of twentieth century dentists to keep all the spaces filled in order to retain the proper contour of the face.

#### BRIDGE-WORK

Should a person be so unfortunate as to have lost several teeth the spaces can be very satisfactorily and artificially filled with bridge-work. Almost any number of teeth can be replaced in this manner; in fact whole sets are made if there are four or more sound roots left for support. A bridge more nearly takes the place of natural teeth than any of the other substitutes. They are perfectly firm in the mouth, can be easily cleaned and give no annoyance in singing and speaking.

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#### ARTICLES OR LETTERS WITHOUT SIGNATURES

MANY letters well worth publishing, addressed to the editor of Brother Bill, are received without signatures. Such letters cannot be published.

Letters intended for publication or other attention must be signed by the writers. Names will not be published when request to the contrary is made.—THE EDITOR.

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#### LOVE'S VALENTINE

I would be true, for there are those who trust me,  
I would be pure, for there are those who care.  
I would be strong, for there is much to suffer.  
I would be brave, for there is much to dare.  
I would be friend of all—the foe—the friendless.  
I would be giving, and forget the gift.  
I would be humble, for I know my weakness.  
I would look up—and laugh, and love—and lift.

HOWARD ARNOLD WALTER.

## DENTAL OFFICES AND DENTISTS, AS SEEN BY THE PUBLIC

The person who visited these offices is of more than average intelligence. These reports are such as would come from a very large number of people who would make desirable patients.

A striking commentary on the ability of these dentists to sell their services to advantage may be gained by comparing the real needs of this patient with the offerings made by various dentists. The needs were:

*First.* Cleaning and prophylactic treatment. All the teeth were unclean. The salivary deposits had, in certain places, inflamed the gums and caused them to recede. The first great need in that mouth was that the teeth be cleaned, these deposits be removed and the gums returned to health.

*Second.* On the distal side of one posterior tooth was an amalgam filling, put in without separation or contour. On the anterior side of the next tooth back was another filling of the same character. These two fillings approximated each other. Neither was properly extended, neither was contoured. The interdental space was lost. Food wedged between the fillings and the gum was inflamed. Both fillings were leaking. Both needed replacing with proper separation, extension and contour. Sufficient separation could be gotten only by wedging with tape for a few days.

*Third.* Two or three pit occlusal cavities needed filling.

*Fourth.* Two roots needed extracting. There was little need for a bridge as one molar was the only tooth missing from the 32. This was the one of which the roots remained. Note how many dentists overlooked the real troubles in order to seize on this chance to sell a bridge.

The offices here reported on are selected from different cities to prevent identification.—EDITOR.

*(Continued from January Number)*

## NUMBER ELEVEN

Approach is favorable. Hall is rather dark. Sign is not properly displayed. Stair carpets worn. General aspect is clean.

Reception room is rather dark and does not look like a dentist's reception room—more like a private parlor. Has considerable drapery and all upholstered furniture in pretty good condition. Does not look modern, but is clean. Plenty of books on the table, but no magazines.

Operating room is the best part of the establishment. Has foot drilling machine.

Instruments are put away.

Dentist's cuffs a little soiled, but otherwise his general appearance is clean and neat. Has no attendant of any kind.

Gentle. Courteous. Said he would refill three teeth—with bone

for \$3.00, extract roots for \$1.00 and clean teeth for 50c. If I wanted bridge-work it would be \$12.00.

Would not come down in price. Thirty days credit upon satisfactory reference.

No patients were in his place while I was there.

#### NUMBER TWELVE

Good locality. Fine house. Approach light, clean and convenient. Sign well displayed in gilt letters.

Reception room large, light, pleasant and well furnished. Some of the furniture is antique in design and mostly of hardwood. There are a few cloth-covered chairs. A very cheerful and inviting room. Books and up-to-date magazines on table.

Operating room looks modern and sanitary; waxed floor. Very neat throughout. Chair excellent. A few instruments were lying on the stand. Dentist is clean and neat in every way.

Has young lady in office, clean and prepossessing, who appears to understand dentistry.

Dentist is not very gentle in manipulating his instruments, but is courteous. Has a heavy hand. Said he would fix my teeth up for \$30.00, fillings, refillings, new crown, roots extracted and back of teeth cleaned. One gold filling, \$3.00.

Finally came down to \$27.00, same quality of work.

Wants \$5.00 deposit and balance when work is finished. Said he allowed credit to his regular patrons. Seems to be in good circumstances.

#### NUMBER THIRTEEN

Approach to office is good. Excellent neighborhood. Hall is light, clean and looks inviting.

Reception room should have more light. The furniture is modern, neat and in good condition.

Operating room is of fair size. Linoleum-covered floor. Everything seems well arranged, including chair and other apparatus. Instruments are put away.

Dentist is very polite and likes to talk on various subjects. Clothes and linen clean and in good form. Hands and face clean. Looks like an able man. Manner reflected confidence.

Has neat girl. In examining mouth he is gentle. Said he would take out two roots for \$1.50—three platinum fillings for \$3.00 and put on new gold crown for \$5.00.

Would not come down in price. Said he would guarantee his work, and that I could come back any time within six months without charge if there was any faulty workmanship.

Said I could pay \$2.00 down and something after each visit. No credit.

He seems to do a good business as there were several patrons in the reception room.

#### NUMBER FOURTEEN

Flat—2nd floor, overlooking good section. Approach is A1. Light and clean. Hall is very attractive.

Reception room is somewhat small, but well furnished. Seems to be in good condition. Subscribes to three magazines.

Operating room looks well. Has very large bay window in front of chair and there is plenty of light. Everything seems clean, sanitary and modern, except the instruments which look very much worn and dark in color.

Dentist's clothes and linen clean. Hands clean, but nails dark. General appearance is all right. Seems to know his business pretty well. Has polite girl in attendance. Said he would extract two roots on lower jaw and insert bridge-work for \$25.00—also one filling next to crown upper right—amalgam for \$1.00. Total, \$26.00. Then came down to \$25.00.

Terms, \$5.00 down and \$10.00 when work is completed. Balance within thirty days.

#### NUMBER FIFTEEN

Good neighborhood and approach. Sign in good taste and well displayed. Light and clean.

Reception room well furnished, nearly all upholstered furniture. One chair is broken. Has several magazines of an old date on table.

Operating room light and clean. Instruments put away. Modern chair a little worn in appearance.

Dentist has clean face and hands—likewise linen and clothes. Slow in movements. Looks capable. Polite office girl.

In working is very gentle and considerate.

Tooth, last upper left.

Amalgam, \$1.50. New crown, \$5.00. Roots extracted, \$1.00. No reduction.

Credit, thirty days on reference.

## NUMBER SIXTEEN

Approach light, clean, convenient. Reception room large, light, pleasant, neatly furnished; furniture in good condition and modern. Current magazines on table. Sanitary.

Operating room looks modern, neatly kept, chair neat, instruments put away.

Dentist has clean hands and face, good clothes and linen. Polite office girl in attendance. One assistant. Gentle in examination.

One crown, \$5.00; one bone filling, \$1.00. No reduction. No credit. Pay when work is finished.

Seems to be doing fair business. Three patrons waiting.

## NUMBER SEVENTEEN

Business center. Approach light, clean and business-like. Sign well displayed. A very convenient location.

Reception room of good size. Plainly but neatly furnished. New magazines on table. Operating room is sanitary. Has only necessary things therein. Chair neat. A few instruments in view. Has good light.

Dentist's clothes and linen clean. Hands and face clean. Is quick and not gentle, but courteous. Said he would take out roots and put in bridge-work for \$25.00. No reduction. No credit.

Young, polite office girl.

Has one assistant and seems to be doing a fair business.

## NUMBER EIGHTEEN

Good street and house, but not a busy thoroughfare. Approach is all right—attractive, light and clean.

Reception room is large and clean, but has very little furniture and that is upholstered. Don't see any magazines or periodicals. This room could be made more modern.

Operating room is in rear of house. Seems to be neat and clean. Chair worn. Dental apparatus looks modern. Instruments out of sight. Has hardwood floor.

Has excellent clothes and linen. Clean hands and face. General appearance good. Looks like a solid man who would tell the truth about condition of teeth.

The general housemaid seemed to act as office girl. She is polite but not over-neat.

Dentist has an engaging and gentle manner. Said he would extract roots for \$1.00—one on each side. Refill last upper left tooth with amalgam for \$1.00.

Bridge-work would be \$10.00, but it wasn't necessary as the crown would probably last a few years yet. No reduction. No credit.

## NUMBER NINETEEN

Business section. Sign and show-case. Approach light and clean.

Reception room very large, sanitary and clean. Could stand more light. Plenty of furniture in good condition. New magazines on table.

Operating room is large and light. Chair fine. Instruments put away. Has two operating rooms and two assistants. Chairs good. Ladylike girl in attendance. Dentist is gentle in his manner.

Gold crown, \$5.00; gold filling, \$2.00; roots out, \$1.50; bridge-work, if wanted, \$12.00. No reduction. Cash when work is completed. \$5.00 down.

Several people in reception room. Seems prosperous.

## NUMBER TWENTY

Good business location. Hall narrow, not convenient. Light and clean.

Has large reception room, well furnished and in good taste.

Has several operating rooms, and they all seem to be in good shape.

The dentist's clothes, linen, hands and face—clean. Wears large diamond and looks prosperous. Two colored girls in attendance. Gentle and courteous in manner.

Said I would need three fillings, roots extracted and bridge-work. Price, \$20.00. No reduction. No credit.

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**\$220.00 TO BROTHER BILL'S CREDIT**

*To the Editor:*

My business year begins June 1st. In June of last year, I got hold of Brother Bill's "Big Idea." Since then I have done (in five months) \$220.00 more of business than in the same five months last year. *At the same time I have done some operations I am proud of. I am doing better work and am getting better fees. And this is just the beginning.*

Signed by a wideawake Illinois dentist.





# DIGESTS

DENTISTRY AND THE PUBLIC SERVICE \*

EVERYONE who has kept in touch with the present awakening of interest with regard to the public service relations of dentistry must have been impressed with its widespread extent. Dental societies and individual practitioners throughout the country have become alive to the great importance of this phase of dental activity and the interest in the subject which is rapidly becoming expressed in terms of action. Never before in the history of the dental profession has there been such a general awakening to an appreciation of the importance of the mission which dentistry can perform and ought to perform in a humanitarian way for the public health. Heretofore we have been content to minister principally to that portion of the community that was able to pay a fee for the service rendered, and upon the basis of the results attained in the rendering of this compensated service we have based almost wholly our claims for professional recognition and for recognition by the public as practitioners of a humane calling. By the inspiration of a few who have been blessed with a larger range of vision, and who by precept and example have shown that there is a still larger professional duty before us, there has come about a general appreciation of the fact that the way to a higher and broader professional life is to be found not in the exclusive doing of work for which we are financially compensated, but in an unselfish service to that larger and worthy element of humanity that is unable to pay for the service rendered.

It is interesting to note that the present interest in public dental service is by no means confined to dental professional circles. For some time past there has been a growing interest in medical circles regarding this same problem. As dentists we have for years been preaching the importance of mouth hygiene, the relations of the buccal cavity to general health conditions, and the importance of certain dental and oral diseases in their constitutional bearings as well as the diagnostic value of mouth lesions as related to systemic states. We have pro-

claimed the fact that the mouth and its contained organs is a part of the bodily economy, with which it is in such sympathetic relationship by its vascular and nervous connections that aberration from normal health in the one is almost certain to produce its reflex effect in the other. As a result of the emphasis which we have publicly given to this view of our field of work our medical *confrères*, in connection with their own studies of the question, have come to accept the general accuracy of the position here referred to. The demand is therefore being heard from the medical side as well as from the dental side, that provision be made for the extension of the benefits of dental service to that class of the community who are unable to pay for it.

A similar demand is coming from public health departments in many of our larger municipalities, and a still larger and more important demand is coming from educational boards who have to deal with the physical factor in the educational work of our public school system. It is being generally recognized by the public school authorities of the land that defective dental and oral conditions in school children are a fruitful source of mental backwardness due to the mental inefficiency of those who suffer from this source of physical disability. The proportion of school children who are below the average grade and who are repeating courses of study is so great as to involve an addition of \$27,000,000 annually to the taxpayers' burden, which it is believed would be materially lessened if the element of mental inefficiency due to preventable dental defects were eliminated by effective dental service in connection with our public school system.

The need for similar service in connection with public institutions for the care of the needy and defective of all classes, the insane, the incurable, the inmates of prisons and reformatories, is equally important. So likewise is the need in the case of those enlisted in the defensive service of the country. Our soldiers and sailors, viewed simply as fighting machines, cannot be maintained upon the highest basis of physical efficiency unless their masticating mechanism is kept in the normal order of serviceableness.

These in general represent the several directions from which comes the demand for an enlarged interpretation of the public service relations of dentistry and which are pointedly raising the inquiry as to how the demand shall be met.

In times past the criticism has been made by the medical profession, and not without justification, that dentists, generally speaking, were not willing to give a portion of their time and skill to the public service without financial compensation, as is customary in the case of medical practitioners; and that until a broader and more unselfish

spirit in this particular was practically manifested by dentists, they would as a matter of fact fall some points short of that professional stature which they had claimed for themselves. We believe that the principle involved in this critical expression is correct, and that the time has arrived to refute it by entering into the field of work that is now opening up before us. That it has not been done before is due to a variety of circumstances. It is not true that our failure to actively engage in this field of work has been due to any widespread spirit of selfishness, but rather to the fact that it has required many years of active educational effort by the dental profession to direct medical attention as well as the attention of the public to the vital importance of the work which the dental profession as such was doing. That recognition has now come; the psychological moment is here, and with it comes the demand that we shall practically demonstrate the truth of our contention that dental service is a vital need in relation to public health.

The manner as well as the spirit in which the response to this demand shall be made by the dental profession is a critical and important factor of the situation. Already there are evidences of a tendency to commercialize the fundamental spirit of philanthropy which should be the sole and sufficient motive back of the work. If the manufacturer of or dealer in dental supplies is to be annexed to this movement—even to the extent of promoting it under the specious guise of conducting an educational campaign in favor of dental public service, but really with the object of creating a larger market for his goods—it will not only result in failure to attain the object, but will strike a fatal blow at dental professional life from which it cannot recover. That this tendency is already manifesting itself, and for the avowed purpose of increasing the dental supply business, is matter of record and should be generally known and recognized. Nor is this commercializing tendency in relation to public dental service confined to mercantile and manufacturing sources; already within the dental profession there are symptoms of an effort to utilize the opportunity created by the present interest in public dental service for commercializing the spirit or principle back of it, by attaching to it a financial inducement upon a stock-jobbing basis. All such efforts are inimical to dental professional spirit and subversive of the best interests of the dental profession, and should be treated as such. To make the movement successful it must be promoted unselfishly; we must go before the court of public opinion with clean hands and pure hearts, animated only by a love of our profession and a spirit of true philanthropy, if we are to hope to win our case.

## EDUCATING THE PUBLIC THROUGH THE PRESS\*

SOME fifteen or twenty years ago the undersigned attended a convention of the Southern Dental Association in Atlanta, Ga., at which a good share of the time of one meeting was utilized in discussing the urgent need of "educating the public through the press." It was pointed out that the advertisements, and especially the false statements contained in many advertisements of the so-called advertising dentists, could be counteracted in no other way than by the publication in the daily press of articles which would advise the lay mind of the progress and advantages of dental service of the highest type.

About this time the New York *Herald* was printing in its Sunday editions a column carrying the caption, "What the Doctors Say." The writer, in his youth and enthusiasm believing that all the arguments used in Atlanta were sound, and that an ethical attempt to "educate the public through the press" would be appreciated, approached the *Herald* and arranged to supply a series of articles each Sunday to be entitled "What the Dentists Say." In these articles there was nothing to indicate their origin, and no advertisements of persons, until the operation of "implantation" was described. In this connection Dr. Younger's name was mentioned, and immediately the storm broke. A prominent dentist arose at the next local society meeting and demanded that an investigation be made to discover the identity of the writer of the articles, at the same time venturing the belief that the last one in particular was traceable to Dr. Younger himself or to some one of Dr. Younger's friends. In disgust the undersigned promptly arose, admitted the authorship of the papers, denied that Dr. Younger had either inspired or even knew of the *Herald* article and asked the men present to discuss the question frankly, as to whether the series of articles had advertised dentistry, or just dentists. A number of those present lived in the nearby towns and cities, and these all declared that the articles had attracted business to their offices. There was so much of this sort of testimony that the resolution to investigate was laid on the table, and apparently is there yet.

Was it strange that the writer should have abandoned his well-meant effort to "educate the public through the press?" . . .

## AN EXAMPLE IN ETHICAL PRESS WORK

After studying this problem for many years, the writer recently took advantage of what seemed to him a great opportunity to advertise

\* From an editorial in *Items of Interest*.

to the public something of the progress of dentistry. He had the good fortune to render professional services to a member of the family of the editor of the magazine section of the *New York American*, and easily interested him in the campaign of promulgating to the people the importance of the care of their teeth, in its relation to and effects upon the general health. It should be remembered that the Hearst newspapers circulate in New York, Boston, Chicago, San Francisco and Los Angeles, with an aggregate actual circulation of at least 3,000,000! The Sunday supplement reaches many more. A single paper supplies a household, and the magazine or pictorial section is usually the first read. The dental profession, therefore, should be greatly indebted to Mr. Goddard, who up to date has given us a whole page in three issues (Sunday, November 28, Sunday, December 5, and Sunday, December 19). The first story dealt with the importance of the care of the teeth of children, and explained the need of school inspection and the establishment of public clinics. The second related to the importance of caring for the temporary teeth, and described the causes and possible treatment of malocclusion. The third deals with the cleansing and saving of the teeth through prophylactic measures.

These articles have been the most remarkable ever printed in any newspaper. They were compiled and written entirely by a staff writer, so that the language is the language of the people; it is the language in which the newspaper usually talks to its readers, and consequently it reaches their comprehension much better than any articles written by dentists, who would unwittingly use technical terms without defining them. There have been a few errors and slight misstatements, of course, but these have been so few and so unimportant as to be inconsequential, except in establishing the fact that it is a message from a great newspaper to the great American public, about a great profession, and not a message from a great advertising dentist about the great things that he does in his own office.

Thus we offer those that are interested in educating the public through the press a fine object lesson in how to do it. The method was as follows: Mr. Goddard sent to the undersigned one of his best staff writers. The situation was explained to him, and he was directed to sources of information in regard to the movement for public clinics. Articles in the magazines were indicated, and he was placed in communication with the Oral Hygiene Councils of the National Dental Association, and of Massachusetts, New York, and similar local committees in New York City, Brooklyn, Cleveland, and cities in New Jersey. It was explained to the gentleman that the men connected with these Councils and Oral Hygiene Committees had been especially

appointed by dental associations and societies to further this great movement, and that they were consequently authorized to speak in print, should they deem it wise to do so. At the same time it was pointed out that in other articles which might be written it would be best to obtain information and material from men so high in their professions that they would not consent to the use of their names. It should be remembered that the newspaper man naturally wishes to quote high authority for that which he publishes and it is asking a great deal to request the papers to aid us in this work, and yet deny them the use of our names. However, it was pointed out that to say that their authorities stood so high that their names could not be used, might serve every purpose.

The writer of the articles in the *American* has certainly been very scrupulous in this matter. He has mentioned names of men connected with the Oral Hygiene Councils, but this was permissible. But in the second and third article no names are mentioned except where he has seen fit to quote from printed uncopyrighted articles, and this he has done of his own selection, and without suggestion from anyone.

The article on "Prophylaxis," in the December 19th issue of the *American*, is a peculiarly good example of the effort which has been made to keep within the limits of the most bigotted demands of ethics. The article, as a whole, is mainly the result of a three-hour interview with a dentist who is a high authority; but whose identity, and even the fact that there was an interview, is completely concealed from the readers of the paper. In the same issue of the *American*, separated from the dental article by only a few pages, is another full-page story dealing with a medical topic, the new anesthetic, "stovaine." On this page we find a portrait of Dr. Jonnesco, a picture of "Dr. Jonnesco filling the hypodermic syringe," and a picture of "Dr. Jonnesco injecting stovaine." Turning back to the Dental Prophylaxis article, we find two pictures demonstrating the proper way of using a tooth-brush. One shows the hands of the gentleman interviewed holding a set of false teeth, and also holding the tooth-brush in proper position. The second picture shows the hands and brush properly held for cleansing the lingual surface of the lower teeth. In neither instance is the face disclosed. This indicates that it is possible to "advertise dentistry without advertising the dentist."

R. OTTOLENGUI.



## THE PRACTICAL KNOWLEDGE OF THE CHEMICAL CONSTITUENTS OF SOLDERS AND THEIR APPLICATION TO METALS\*

BY TROY A. APPLE, D.D.S., WINSTON-SALEM, N. C.

The sound common sense and exact technical knowledge in this short paper commend it to every gold worker who does not already possess this information. This paper is an excellent example of how a man may impart a good deal of really valuable information without searching heaven and earth for the material with which to "pad" out the paper, or using such strange and unusual words as to make it necessary to read with a dictionary always at hand.

The editor of this department keeps over his desk a card which he finds very useful in the preparation and selection of material. It reads, "Whin yez ar-re done pumpin' LAVE TH' HANDLE!" If more authors would do that, dental magazines would be more helpful.—EDITOR.

METALLURGY as related to dentistry is growing more important every day, and the apparent inability for me to do justice to the subject in such a short paper is evident; still, I am truly glad to bring before you a few practical points relative to solders and their application to metals in the construction of crown and bridge work.

Alloys of gold plate used for the construction of artificial dentures should be of such fineness as to resist the chemical action of the fluids of the oral cavity, while at the same time they should possess the requisite hardness, strength and elasticity.

These properties are conferred by the addition of copper and silver, or either of the metals, or by copper, silver and platinum together, bringing them to any required carat of plate desired. The usual and most universally used plate for the construction of crowns is of a standard gauge and fineness (22 carat by 29 and 30 gauge), which can be had in two shades. The very light plate is non-oxidizable and is considerably softer than the dark plate; this is alloyed with silver principally, the property of which renders it more malleable than copper and produces a light shade. I find this plate preferable for crowns that require considerable burnishing to the tooth, such as open-face crowns.

The dark plate is alloyed with copper principally, the properties of which give it a more reddish and richer-looking shade, being almost the shade of 24-carat plate and much harder than the light shade. This dark plate is oxidizable, although the oxid can be readily removed by pickling.

For backings and cusps 24 carat by 34 and 36 gauge is more universally used than thicker plate, it being more easily burnished in

\* Read before the North Carolina State Dental Society, Charlotte, July 1-4, 1908.



place and copying finer lines for the cusps. The writer finds 34 gauge best in all cases. Platinum 38 and 40 gauge is also used for backing by a great many dentists, although I have never found any advantage in using it; in fact, it occurs to me as being a disadvantage, as it is impossible to swage or burnish platinum, even when annealed in a muffle into as accurate contact with the surface of the facing as pure gold, hence leaving small crevices for borax to run. The higher fusing point of platinum counts for much, but absolute contact obtained by pure gold is decidedly preferable.

The solders we use in dentistry are always lower carat than marked on the piece. Twenty-two (22) carat solder is not 22 carat fine—only about 20 carat—and is marked on the piece “for 22-carat plate,” and so on down to the lower-carat solders.

I think a great mistake is made in using low-carat solders, especially where we are soldering to porcelain facings. The lower grades, or so-called “easy flowing” solders, have a greater amount of zinc in them, which gives the above property; but, while reducing the fusing point, it adds greatly to oxidization, hence calling for more borax and increasing the danger of porcelain cracks from an excess of flux; further, the affinity of zinc for pure gold or platinum backings develops with bad results, as the lower-grade solders are easily reduced by successive layers to a fusing point common to the whole mass, when the backing burns out, exposing the porcelain and producing an imperfect piece. The surface of lower-carat solders is apt to be pitted with small holes, and will not have the solid and uniform appearance that is desirable for a neat, sanitary piece of work.

A solder should possess the quality of flowing freely, but as high carat as the attainment of the property of the metal will permit, and thus sufficiently resist the actions of the fluids of the mouth. For a 22-carat plate I solder all bends, cusps and pins with 22-carat solder and fill in with 20-carat solder. In case of single-shell crowns on molars I fill in cusps with 18-carat solder, which I think gives you a harder and more resisting surface to the heavy strain of mastication. In many cases of repair work we are called upon to use the lower-carat solders, not knowing what the former piece was soldered with.

The conditions for successful soldering are: First, contact of the pieces to be united; second, a clean metallic surface over which the solder is to flow; third, a freely flowing solder of proper fineness used in minimum quantities; fourth, proper amount and distribution of heat and flux.

Contact of the pieces to be united is of great importance, and if any defects of this character are found to exist after the piece has been

invested and wax melted out, they should be remedied by filling such spaces and crevices with pieces of pellet and foil gold, for which purpose I use refused and little pieces that drop on the floor while making gold fillings. These little pieces saved and thus used, in many cases prevent rough-looking joints and spaces and in addition are a great protection to porcelain facings from borax.

Cleanliness must always be strictly observed, as this is one of the most important factors towards successful soldering. All parts to be soldered should be carefully protected from any contact with plaster of Paris or investment, as this will greatly retard the union of the parts and impair the strength, utility and sanitary properties of the piece.

The larger the bulk of metal the greater the expansion under heat and contraction in cooling, hence the smallest amount of solder should be used that will meet the requirement for continuity and stability. If this precaution is carried out, we will have the smallest possible portion of the alloy exposed to the oral fluids, while at the same time avoiding the danger of fracturing porcelain facings by the contraction in cooling of an excessive amount of solder.

The application and management of heat in the operation of soldering are matters requiring both care and judgment. In the first place, the temperature should be raised very gradually to avoid the fracture of facings by too sudden expansion of the metal. The best method for heating up a case is to place it on a gas oven, such as we have in our laboratory for heating flasks, etc. A rim of sheet iron about six inches in diameter and two inches high should be placed around it for the purpose of holding the charcoal, which in small pieces should be built around the outside of the case so that it may be uniformly heated. The gas jets should be turned on gradually, giving about thirty minutes to reach the proper temperature for soldering, when the case is lifted from the gas oven and placed on an asbestos block. Then, take some of the hot coals used in heating up the case and place around the investment; this will prevent too rapid cooling of the piece should any delay in soldering occur. With careful manipulation of the blow-pipe, first using the brush flame, then the reducing flame, by which we can carry and control the solder to any point, we will find our soldering comparatively easy and successful to some that are entangled to many vexations. After the soldering operation has been completed, leave the investment piece on the soldering block, so that it may cool gradually, lessening the danger of fracture of facings by a too sudden contraction of the metal.

There are a dozen different kinds of formulas for flux, but I do

not think there is any that can equal the regular block borax mixed to a creamy consistency with a little water on the soldering slab. Great caution should be taken not to use an excess of borax, as every particle applied to the surfaces to be soldered and that on the solder will not, if imprisoned in the metal and forming pits, be found on the surface of the work and in the adjoining investment edges, thereby rendering the facings more likely to be fractured.

A little fine borax mixed with white petroleum jelly I find a very fine medium to use on small pieces of solder, when soldering bands, cusps, pins, etc., to prevent the small pieces from falling off. The petroleum jelly has no virtue whatever as a flux, and I am sure it does not affect that property of the borax. It readily burns off and leaves the borax on the metal, holding the solder in place.

For investments, I do not know of any material better than one-third pumice-stone and two-thirds plaster of Paris. This makes a good, strong investment that is easily trimmed to access of points to be soldered, and is not so apt to chip and crack as many other investment materials.

I am aware that I have not told you anything new, but if even repeating these obvious facts has served to make one of the brother practitioners more alert to guard against possible defects of manipulation, I feel amply repaid for a little time and trouble in writing this paper, and am sure that I shall derive much benefit from any discussion that may follow.—*The Dental Brief*.

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## IRRITATION FROM PLATES

BY T. G. WORTHLEY, D.D.S.

THERE are several reasons why a vulcanite (or any other) plate may act as an irritant to the tissues underlying it. First, a plate too high on the rim. This would apply to a plate of any material, but is more likely to occur in a vulcanite plate, for the reason that the plate edge is less likely to be properly rounded and polished. Not only must care be taken that the plate does not impinge at any point upon muscular tissue, or the frænum of the lips or tongue, but care must also be taken that all plate edges be carefully rounded and polished.

A few cases are recorded in which a lower plate extended so far down on the lingual side as to cover the orifice of Wharton's duct, producing a condition resembling ranula. In one such case, coming under the writer's observation, it was noted that the wearing of the

plate produced a thickening and engorgement under the tongue, which disappeared if the plate was left out for a few days. The family physician ascribed the condition to poison from the rubber and advised a metal plate. The trouble entirely disappeared after trimming the lingual edge of the plate to the proper length.

Just posterior to the incisor teeth in the upper jaw is a marked papilla, situated directly over the anterior palatine fossa, which is quite prominent and compressible. In the palatine fossa are found the openings of the incisive foramina. It not infrequently happens that a plate may so press upon this papilla as to partially compress the underlying nutrient vessels. In those cases in which the patient complains of a burning sensation in the roof of the mouth, after the plate has been worn for a time, the scraping of the plate where it presses upon the tissue overlying the orifices of the incisive foramina will nearly always bring relief.

The above causes of irritation from plates are comparatively rare. The discussion of the two common causes has been left to the last. They are roughness and uncleanness of the surface of the plate, which is in constant contact with the mucous tissues. That is, the palatal surface of upper and the alveolar surface of lower plates. It is safe to say that the chief reason why metal plates prove less irritating to the tissues with which they lie in contact than vulcanite ones, is that the metal has a polished surface and the vulcanite (generally) has not. To secure a polished surface on vulcanite the first requisite is a smooth model over which to vulcanize. If the impression is taken in modelling compound no separating medium should be used. If taken in plaster no soapy water or oil should be used as a separating medium. Either one will give a softened surface to the model. The following method of separating will insure a good surface to the model: Dry the impression and give it a single coat of collodion; dip a pledget of cotton in water, rub it over a cake of soap, dip again in water and then swab over the surface of the impression. With a dry pledget of cotton wipe away all apparent moisture. This leaves a minute film of soap—not soap suds—over the collodion and gives a fine polished surface to the cast, provided, of course, that the plaster for the cast is properly mixed and poured.

Burnishing tin foil over the model just before packing the rubber gives a fine polished surface to the plate, and is an excellent method if a light foil is used and no folds or wrinkles are left in it. The foil can be removed from the finished plate by immersing for a sufficient time in fifty per cent. sulphuric acid.—*Western Dental Journal*.



# PRACTICAL HINTS

A GOOD SPRUE WIRE FOR INLAYS.—Old needles used with a Victor talking machine make good sprue wires for inlays.—R. E. COCKRELL, *Dental Summary* (*The Dental Cosmos*).

PREVENTING THE HARDENING OF RUBBER.—To prevent the hardening of articles or instruments of rubber, keep them in a tin can containing talcum. If they need softening, bathe them in ammonia water, afterward passing them through glycerated water.—*Revue Trimestrielle Belge de Stomatologie* (*The Dental Cosmos*).

IODIN STAINS.—A solution of sodium hyposulphite, the photographer's hypo, quickly removes iodine stains from linen, etc. It is inexpensive, and not unpleasant to handle.—T., *The Dental Brief*.

BREAKING OF CONTRACTION OR EXPANSION ARCHES.—The breaking of contraction or expansion arches frequently occurs at the portion where the thread begins. In order to avoid this, the arch is held at that place with a pair of flat tweezers in such a way that part of the thread and part of the smooth wire is held in the tweezers, thereby preventing a breaking of the weak portion.—GEO. POULSON'S *BERICHT* (*The Dental Cosmos*).

STOPPING PAIN.—In Chicago, at a recent clinic, Dr. Keefe demonstrated that any pain arising from the fifth nerve could be temporarily stopped by making two or three injections of equal parts of water and alcohol into the nostrils by means of a watch-case atomizer. The pain would disappear in from ten to fifteen seconds.—DR. W. E. TENNANT, *Dental Review*.

OXYPHOSPHATE OF COPPER, AS A SPACE OCCLUDER.—A writer in *Dental Practice* recommends oxyphosphate of copper for filling the spaces under and between the roots of molars where from resorption of tissue the roots are exposed, and food collecting spaces have formed. These spaces are highly objectionable, they cannot be kept clean, and are frequently the cause of much discomfort. A celluloid cement tube will be found very useful for introducing the cement. The soft tissues take kindly to the oxide of copper, and it seems to give the teeth a measure of support.—*Dental Cosmos*, December, 1909 (*The Dental Brief*).



# BOOK REVIEWS

ATLAS OF DENTISTRY IN 52 STEREOSCOPICAL PLATES. Edited by KARL WITZEL and published by JULIUS SPRINGER, Berlin, 1909. Descriptive Text in German, English and French. Price in portefolio, \$6.00.

Of all the methods for imparting information which have come to the writer's desk none has commanded more instant and enthusiastic approval than this atlas. It consists of 52 photographic reproductions of the skull and jaws at various ages and conditions. These illustrations are double; that is, two are arranged on a card 5x7 inches, for insertion into a stereoscope such as has for many years been used for viewing those pictures which come double on a card. As these views are taken with cameras having two lenses separated like the eyes, each view differs slightly from the other. When both are seen at once through the stereoscope the effect is equal to holding in one's hand the veritable skull. Since receiving this Atlas of Dentistry the writer has procured a stereoscope and has studied these views with interest and profit.

The dentist who procures this Atlas of Dentistry will have always at hand the equivalent of a fine collection of crania in all stages of development, and singularly clear accompanying notes. It is heartily commended to all students both undergraduate and graduate.

MODERN DENTAL MATERIA MEDICA, PHARMACOLOGY AND THERAPEUTICS. By J. P. BUCKLEY, PH.G., D.D.S., Professor and Head of the Chemical Department of Materia Medica and Therapeutics, and formerly Director of the Chemical Laboratories, Chicago College of Dentistry. Publishers, P. Blakiston & Son Co., Philadelphia.

The purpose of this book as stated in the Preface is to give to the dentist all he should know regarding drugs and remedies and their practical application in the treatment of disease.

The work is divided into two parts. The first is devoted to Materia Medica and Pharmacology, with enough Therapeutics to indicate clearly the uses of the various drugs and remedies. An effort has been made to include every drug or remedy which is employed in Dental Therapeu-

tics, except those which are obsolete. In this part of the book, also, is included Prescription Writing and its associated subjects—Metrology, Medical Latin and Incompatibility, all of which have been given the dignity and importance they deserve in a dental course.

The second part of the book is devoted to Practical Dental Therapeutics. In writing it the author was actuated by the belief that Dental Therapeutics is of sufficient importance to occupy a place in dentistry by itself.

No attempt has been made to describe all of the many methods of treatment, nor to give the endless formulas suggested in the various text-books and journals, for the pathologic conditions mentioned herein. To do so would lead to confusion, as well as make the book unnecessarily voluminous, in which case the word "practical" in connection with "therapeutics," as used here, would be a misnomer. Therefore, in most instances, only the methods by which the conditions are treated in the author's own practice are detailed. These methods, of course, are not wholly original. They have been gleaned from clinical experience, from extensive reading, and from observation and association with other practitioners; and in both private and infirmary practice they have given good results.

For the dentist whose use of drugs is confined to carbolic acid and perhaps a proprietary remedy or two, this book may be unnecessary, but for the dentist who wishes to take advantage of the very valuable aid which drugs intelligently used may furnish him, it will be found valuable as a reference book. By its aid also dentists may learn to write prescriptions which shall not be subjects of jest, or which shall not subject the recipient to the danger of a tragedy by reason of the writer's ignorance.

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CONVENIENT LABORATORY APPLIANCES.—It is often desirable to have a smooth base on our models and the use of glass plates involves breakage or possibly a cut finger on sharp edges. I have been using a piece of sheet celluloid fastened on the plaster bench. Run the model in impression and invert on the celluloid. It will separate easily and be smooth and clean. Especially useful in orthodontic work.—GRAFTON MUNROE, Springfield, Ill., *The Dental Brief*.



## EDITORIAL

## PUBLIC DENTAL EDUCATION

IN *The Dental Cosmos* for January, 1910, there appears an editorial entitled "Dentistry and Public Service" which is condensed on page 115 of this issue of this magazine.

In the January *Items of Interest* appears an editorial entitled "Educating the Public Through the Press" which is "Digested" on page 118 of this issue of this magazine.

Both these editorials deal with somewhat the same subject from different view-points. Both are worthy of careful perusal because they deal with a subject which is to loom large in the eyes of the profession in the years that are near at hand.

It is the intention to here take exception, in the most friendly manner, to some of the statements in *The Dental Cosmos*. Before taking up the discussion of these statements, however, let us examine a few of the facts as to what we as a profession have taught the public. It is now 70 years since dentistry began establishing its own dental colleges, and it is many years since our own societies have assumed the position of leaders in our professional life.

During these years of instruction and society work what spread of dental knowledge among the public can be fairly accredited to the efforts of dental colleges or dental societies? Are we, as a nation, even the intelligent ones among us, well informed concerning the uses of the teeth and their care? Does the loving mother know in advance that the health and perhaps life of her child may depend very largely upon the cleanliness of its mouth? Does the man on the street know that his power to accomplish results and his ability to resist disease are closely related to the health of his mouth?

How extensive is the knowledge of the value of oral hygiene among educators, and how great is the practical application of that knowledge to our school-going population?

The answers to these questions are self-evident. He would be rash indeed who claimed that any considerable proportion of our public has any adequate knowledge of the simplest facts of oral hygiene. The loving mother knows practically nothing of the value of oral hygiene. And many a heart aches to-day for the loss of a little one whom such knowledge might have saved. The man in the street falls short of the accomplishment which should be his, and perhaps passes from among us before his time because he was not taught the necessity of oral cleanliness.

Approximately 97 per cent. of our school children are to-day in need of dental services. And these young lives, children to-day, men and women to-morrow, are often stunted and hindered, and sometimes snuffed out aforetime, because no one taught them to care for their mouths, or taught the parents to see that they were cared for.

It is estimated that about 8 per cent. of our public have adequate dental attendance. Approximately 35,000 dentists serve this 8 per cent. and live in all stages of poverty to affluence, with by far the greater number indifferently well off. And all about us approximately seventy million people suffer and die because we, who alone can teach them, do not.

These are the actual conditions after practically two generations of teaching and leadership by the colleges and societies. Will any say, in the face of them, that our leaders have led us well in this respect? In many ways they have done marvellously well, but in the spread of this almost priceless information are they entitled to our plaudits?

The editorial in *The Cosmos* would have us think that the societies have now seen the light and that they will prove adequate and safe leaders in the near future, and we are cautioned lest there should be found among the motives of this noble crusade, any that are not born of the purely elect.

Let us look a little farther into this matter. Up to the present time the credit for what has been done belongs in a large measure to individuals rather than to societies. Certain broad-minded, strong-souled men have looked beyond the usual bounds of society activities and have caught a glimpse of other possibilities and other duties. To men of such stature such a glimpse is a bugle call to service. Something like a divine commission possesses them. And out of the dynamics of such souls come the never-ceasing activities and struggles that push other men and groups of men into service.

It is a now famous phrase that "nations do not rise for liberty, they are prodded up." More nearly than any other words, these describe the dental situation. Societies have not risen for Oral Hygiene; they have been prodded up. If you want to see briefly and modestly stated the difficulties against which such work has been started, read Dr. Ebersole's article in this number, and set a part of that over against the editorial in *The Dental Cosmos*. The history of the public dental work in New York City has been similar. For three years the moving spirits in the campaign went up and down New York City, beseeching help in money or service from The Dental Profession. Promises and praises were forthcoming in ample measure, but neither cash nor services in any considerable amounts. It was not until funds

were secured *from a public source* that the present splendid work in New York was properly launched.

To the credit of the societies be it said that some of them have yielded to these original workers, and in certain instances noble work is being done. To all such workers let us render heart-felt homage. But noble as are these instances, they are still too few in number and too weak in scope to bring speedily about that service our public so greatly needs.

*The Cosmos* says:

"The manner as well as the spirit in which the response to this demand shall be made by the dental profession is a critical and important factor in the situation. Already there are evidences of a tendency to commercialize the fundamental spirit of philanthropy which should be the sole and sufficient motive back of the work. If the manufacturer of or dealer in dental supplies is to be annexed to this movement—even to the extent of promoting it under the specious guise of conducting an educational campaign in favor of dental public service, but really with the object of creating a larger market for his goods—it will not only result in failure to attain the object, but will strike a fatal blow at dental professional life from which it cannot recover. That this tendency is already manifesting itself, and for the avowed purpose of increasing the dental supply business, is matter of record and should be generally known and recognized. Nor is this commercializing tendency in relation to public dental service confined to mercantile and manufacturing resources; already within the dental profession there are symptoms of an effort to utilize the opportunity created by the present interest in public dental service for commercializing the spirit or principle back of it, by attaching to it a financial inducement upon a stock-jobbing basis. All such efforts are inimical to dental professional spirit and subversive of the best interests of the dental profession, and should be treated as such. To make the movement successful it must be promoted unselfishly; we must go before the court of public opinion with clean hands and pure hearts, animated only by a love of our profession and a spirit of true philanthropy, if we are to hope to win our case."

Let us lay aside all pretense and consider frankly the material in this paragraph.

There lies on the writer's desk at this moment an appeal from a dental society which is doing a noble work among the indigent poor of the city where it is located. This letter says "We have no funds save as the public contributes to our work and *the Dental Trade furnishes us supplies*. Among the contributors to our Dispensary are"—and then

follow the names of fourteen leading Dental Manufacturers—"and many others."

Recently certain dental manufacturers were approached by the representative of a certain large dental society in an appeal for funds to carry forward a part of this work which *the society was willing to have done*, but for which it could not supply the money, though a contribution of one dollar from each dentist there represented would have provided ample funds. And the dental manufacturers were asked to supply the money to put the society's campaign into operation.

After careful consideration the dental manufacturers agreed to finance certain undertakings for the *good of the profession*, which the society was unable to undertake.

We are living in a practical age. The motives which move most of us run in circles, coming back to us or ours in the form of expected benefits. Probably few dentists who are engaged in this work are wholly unselfish. They see a wider and nobler profession in the future. They see intelligent patients and better fees. And out of the general good, they will receive their share. So it is with the members of The Dental Trade. Its interests are not to be separated from those of the dental profession. A large proportion of the dentists practising in the United States to-day have been "set up" and are in no small degree "carried" by the finances of the Dental Trade. Whatever promises well for dentistry and dentists *as a whole*, naturally interests the men who are engaged in catering to dentists. There is an immense amount of pretense on this subject. It will be a better day for all concerned when frankness and coöperation have full play on this subject.

The editorial in *The Dental Cosmos* is mistaken, at least in part. There will be no degrading of the activities or purposes which inspire the men in charge of this greatest of all movements toward general education in oral hygiene. Rather will their hands be held up in a more efficient manner than ever heretofore. And work which would have waited many years for that financial support from societies which alone makes it possible will go forward apace. Under present arrangements it will come more rapidly and more effectively than would otherwise be possible. And men and women and children will reap its benefits and grow to useful maturity who would have otherwise suffered and died before their time.

And as this gospel spreads there will be more patients, better fees, and happier dentists throughout all this broad land.

And when the profession has risen to its full stature, when from its own resources it is meeting these demands that are now too great for its interest, but not really too great for its purse, those members

of The Dental Trade who contributed somewhat to the early stages of the work will retire into that obscurity from which they temporarily emerged, well contented to have lent a helping hand when one was needed.

Have no fears, the members of The Dental Trade are not wholly self-seeking; and if they were they cannot be permanently benefited save by such activities as first benefit the dental profession.

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### SOCIETY AND OTHER NOTES

Officers of Societies are invited to make announcements here of meetings and other events of interest.

#### ARIZONA.

There will be a meeting of the Arizona Board of Dental Examiners on the 18th, 19th, 20th, 21st days of April at Tucson, Arizona. Candidates should make their application, and fee of \$25.00 should accompany same, at least twenty days before meeting.—W. A. BAKER, D.D.S., *Secretary and Treasurer*.

#### INDIANA.

The fifty-second annual meeting of the Indiana State Dental Association will be held in Indianapolis, May 17, 18, 19, 1910, at the Claypool Hotel. This promises to be a great meeting.—OTTO V. KING, *Secretary*, Huntingdon.

#### MASSACHUSETTS.

A meeting of the Massachusetts Board of Registration in Dentistry will be held for the examination of candidates, March 2, 3, 4, 1910, at Boston. Applications may be obtained from DR. G. E. MITCHELL, *Secretary*, Haverhill, Mass.

#### MINNESOTA.

Everybody interested in advanced dentistry is cordially invited to attend the Annual Clinic of the G. V. Black Dental Club.

The meetings will be held in the old State Capitol Building in St. Paul on Thursday and Friday, February 24 and 25, 1910.

The next regular meeting of the Minnesota State Board of Dental Examiners will be held at the Dental Department of the State University in Minneapolis on March 15, 16, 17, 1910. All applications must be in the hands of the secretary ten days before.—DR. GEO. S. TODD, *Secretary*.

#### MISSOURI.

The St. Louis Society of Dental Science, at the December meeting, elected the following officers: C. O. Simpson, president; G. E. Hourn, vice-president; J. P. Marshall, secretary; C. S. Dunham, treasurer; H. W. Lansberg, curator.

Executive Committee: E. P. Dameron, Richard Summa, A. H. Winklemeyer, W. E. Wilson and W. B. Arthur.

Advisory Council: G. A. Bowman, B. L. Thorpe, A. H. Fuller, D. O. M. LeCron, Adam Flickinger, W. E. Brown and E. E. Haverstick.

#### TEXAS.

The annual meeting of the Texas State Dental Association will be held at Houston, Texas, May 3, 1910. On May 4th, 5th and 6th the Association will

hold a joint meeting with the Southern Branch of the National Dental Association at the same place. The profession is cordially invited to visit Texas on this occasion.—J. G. FIFE, *Secretary*, Dallas, Texas.

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MEMORANDUM

An examination will be authorized to be held at Fort Slocum, New York, and Fort McDowell, California, beginning Monday, March 7, 1910, with a view to establishing a list of eligibles from which employment as Dental Surgeon, U. S. Army, will be given as occasion may require, in the order of general average attained by the applicants. The full examination will cover a period of from ten days to two weeks.

Applicants will be authorized to present themselves at the nearest military post at which a commissioned medical officer is stationed, for examination as to physical qualifications for employment as dental surgeon. Any physical defect which would disqualify an applicant for a commission or for enlistment in the army will be sufficient to reject an applicant for dental surgeon.

It must be distinctly understood that all expenses entailed by the journey for physical examination, and to, from and while at the place of professional examination, must be borne by the applicant; there are no public funds from which any part of such expenses can be paid.

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OBITUARY

DR. JOSEPH DONAHEY MOODY, aged 68 years, died of heart failure, at Los Angeles, Cal., November 24, 1909. He was born in Ashland, Ohio, in 1841. In 1861 he enlisted as a private in Company H, 42d Ohio Infantry, Col. James A. Garfield commanding, serving three years.

Dr. Moody was in detached service in the Brigade Quartermaster's Department for nearly a year, and was then promoted to second lieutenant and assigned to Company I. At the beginning of the Vicksburg campaign he was placed in charge of the ambulance corps of the Ninth Division, Gen. Osterhaus commanding. Returning to his regiment in the spring of 1864 he was appointed first lieutenant and later adjutant. Soon after his discharge from the army he began the study of dentistry, practicing first in Upper Sandusky, Ohio, later in Mendota, Illinois, where he remained for twenty years. He afterwards removed to Los Angeles, Cal., in February, 1893, where he was engaged in active practice till within a few days of his decease.

Dr. Moody was a valued member of the Illinois State Dental Society, also the Central Illinois and Chicago Societies.

After his removal to California he soon became identified with the Los Angeles and Southern California Associations, and in due time became president of each. He also engaged in educational work, being for several years, and up to the time of his death, Professor of Hygiene and Ethics in the College of Dentistry, University of Southern California.

Dr. Moody was a painstaking and skilful dentist; in his relations with the members of his profession, he was courteous, kind and ethical in the highest degree. He was one who illustrated in his own life the principles he advocated. He was an active member of the Southern California Historical Society, also of the Southern California Academy of Sciences.

He was a deeply religious man, and was particularly identified with Sunday-school

work. He was held in great respect by his neighbors, his patrons and professional brethren.

His widow, Dr. Kate Cameron Moody, whom he married in Jessup, Iowa, 1869, survives him.—G. N.

### PATENTS

- 938937. Barber chair attachment, T. G. Aitken, Deming, N. Mex.
- 938640. Dental instrument, E. L. Chott, Chicago, Ill.
- 939189. Package roll for metallic leaf, W. H. Coe, Providence, R. I.
- 938525. Electric mouth mirror, B. E. Turney, Bridgeport, Conn.
- 939655. Head-rest, J. A. and J. P. Barker, Philadelphia, Pa.
- 939476. Dental inlay holder, B. F. Copp, Las Cruces, N. Mex.
- 939834. Dental tooth clamp, G. A. Harper, Shreveport, La.
- 939261. Machine for contouring crown-matrices, F. O. Jaques, Jr., Cranston, R. I.
- 939365. Dental instrument sharpener, C. Wiethoff, Minneapolis, Minn.
- 940599. Making artificial teeth, J. Humphrey, Boston, Mass.
- 940351. Dental instrument, O. Neugebauer, Berlin, Germany.
- 940058. Dental instrument, S. Quigley, Fitchburg, Mass.

Copies of above patents may be obtained for fifteen cents each, by addressing John A. Saul, Solicitor of Patents, Fendall Building, Washington, D. C.

### WHAT CONSTITUTES THE IDEAL EQUIPMENT FOR A DENTAL OFFICE IN A TOWN OF 25,000 PEOPLE?

A VERY intelligent subscriber has just awakened to the possibilities in his own practice and wants to take advantage of them as an intelligent business man would.

He wants to furnish his office *as it should be*. How shall he do it? He wants every detail, even down to hand instruments.

This letter gave the editor as much pleasure as any he has received lately. The light is breaking in. Men are awakening. This man has been a conscientious, hard-working, hard-up practitioner for a number of years. Now he's going to make some money. He will not be less conscientious or less industrious. But he plans to have something left *for himself*. And he couldn't begin in any better way than by seeing that his office is properly furnished. He is to follow proper furnishings with business methods.

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